



Fresh Treated Air and Ventilation Supports Iconic Fresh Food Market

Adelaide Central Market

Project Address

44-60 Gouger St, Adelaide SA 5000

Consultant

Lucid Consulting

Mechanical Contractor

Westside Group

Equipment

32x Climate Wizard Supercool Indirect Evaporative Model: CW-H15S+

With over 70 traders under one roof, the Adelaide Central Market is one of the largest undercover fresh produce markets in the Southern Hemisphere, buzzing with life and colour all year round.

Offering a huge range of fresh food including fruit and vegetables, meat and poultry, seafood, cheeses, bakery, smallgoods and health foods, along with some of Adelaide's most popular cafes and eateries – The Adelaide Central Market remains Adelaide's premier food destination for multi-cultural cuisine and fresh produce."

As one of South Australia's premier food destinations the Market's reputation has been built upon the health and quality of its products.



It was recognised that the Market's air conditioning system was approaching the end of life, made evident by higher moisture content, higher space temperatures and the declining life span of fresh produce. The Market needed a solution which would protect the integrity of its products and deliver a healthy and comfortable visitor experience.

In line with the company's vision to be the world's leading food and produce market, Trent Snowball, Operations Manager, reached out to Lucid Consulting for a solution.

The Adelaide Central Market underwent a major refurbishment of the whole air conditioning system servicing the market and its tenants, totalling some 8,000 square metres of floor area.

The project brief meant an energy efficient climate control solution best suited to a retail food environment had to be integrated into the building to meet the project objectives and overall business philosophy.

Ultimately, the Market needed an efficient way to cool 100% outside air, particularly throughout Adelaide's hot summer days. With large groups of people converging during busy trading periods, the decision around HVAC needed to account for the health of Market users, particularly in the wake of COVID-19.



Project Requirements

The design required a positively pressurised space to reduce the outdoor air infiltration through the openings on Gouger and Grote Street, while holding space temperatures at around 24°C on extreme days; presenting the following installation objectives:

- Replacement of existing direct evaporative coolers that were reaching end of life
- Provide 100% outside air due to large open roller doors on north and south entrances
- Hold lower temperatures in the space with less added moisture
- Provide favourable indoor conditions to improve shelf life of fresh produce
- Provide a cooling system that was energy efficient and one which reduced peak demand.



The Solution

After an extensive evaluation and selection process, Seeley International's Climate Wizard air conditioning technology was specified by Lucid Consulting and selected by Adelaide Central Market as the best solution.

The 32 Climate Wizard CW-H15S Plus units provide 51,200 litres per second of 100% treated outside air into the market and alfresco areas.

The system now provides positive pressure to the relatively open space to eliminate infiltration load from the large trafficable entrances.

At Adelaide summer design conditions, the units are able to reduce the air temperature by over 20 degrees and provide a total of 640 kilowatts of stand-alone cooling into the building.

The units can provide this capacity with a coefficient of performance of 9.3, which is over three times more efficient than a comparable refrigerated system.

Most importantly, Climate Wizard is playing a key role in maintaining The Adelaide Central Market's status as a premium food destination by maintaining fresh produce and ensuring a visitor experience which is healthy and comfortable.



The Challenges

In terms of project challenges, there were the following:

- The existing air distribution system was intended to be reused
- As the building is located in the CBD, as much prefabrication as possible was organised to avoid traffic disruption due to crane lifts
- The proposed equipment had to work into existing site power limitations
- A robust control system to maintain desired room temperature of 22°C and relative humidity of 50%
- The installation was to be carried out with minimal disruption to the business or the stall holders

Performance Data

| | |
|-------------------------------------|------------------------------|
| Model | 32x Climate Wizard CW-H15S |
| Airflow | 51,200 L/s, 100% outside air |
| Adelaide Design Conditions | 37.7°C DB / 19°C WB |
| Climate Wizard Supply Temp. | 14.7°C |
| Stand Alone Cooling Capacity | 640 kW |
| Coefficient of Performance | 9.3 |
| Input Power | 20 kW |
| COP | 9.2 |

Client Testimonial

"Having fresh air and having cooled air through a retail space is always important, but particularly a fresh food market. The reason why we went with the Climate Wizard system was because it does deliver fresh air through the market at all times and it allows us to control the humidity as well. It is fantastic for customers, traders and the fresh produce that we have here."

"The Climate Wizard has really been a positive outcome for the market and I definitely encourage other retailers to speak with Seeley International about this new technology because it has provided a great solution for our market."

Jodie Kannane
General Manager
Adelaide Central Market



For more information, please call 1300 475 091
or email commercial@seeleyinternational.com



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

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