



**The ultimate workspace, engineered for high performance with advanced cooling systems that redefine working comfort.**

## TESLA O'Connor, WA

### Project Address

146 Carrington Street, O'Connor, WA, 6163

### Contracter and Installer

Ford & Doonan Air Conditioning - Canning Vale

### Equipment

8 x Climate Wizard Indirect Direct Evaporative High Capacity Air Conditioning Units

Model: Climate Wizard **CW-H15S Plus**

### CUSTOMER PROFILE

TESLA's new state of the art sales, service, and delivery center will feature family-friendly activities, light bites, and an opportunity to learn about Tesla products and services.

### INDUSTRY

- Workshop
- Industrial
- Warehouse

### APPLICATION

- Stand-alone cooling
- Dedicated Ventilation
- Integration
- BMS Interface

Tesla's new state-of-the-art Sales, Service, and Delivery Center in O'Connor, Western Australia is more than just a facility, the center will serve as a hub for family-friendly activities, light refreshments, and immersive experiences that showcase Tesla's innovations in automotive and energy technology.

Designed with performance, comfort, and sustainability in mind, this development reflects TESLA's commitment to redefining the customer experience while embracing high-efficiency climate control strategies suited to the local climate.

### Project Requirements

The center will face challenging summer conditions, with ambient temperatures regularly reaching 36.5 °C. Frequent use of large open doors further compromises the viability of conventional reverse-cycle air conditioning systems, prompting the need for alternative cooling solutions.

Additionally, Tesla aims to uphold a high standard of indoor air quality, supported by adequate ventilation across the 2,310 m² floor area. To meet operational demands, the HVAC system must offer both flexible control over individual units and centralized oversight to ensure optimal performance.

The building features consist of the following,

- Total conditioned space: 2,310 m²
- Ceiling height: 7 meters
- Envelope: Metal cladding with 75 mm insulation on walls & 50 mm Anticon on roof
- Internal loads: Equipment: 30 W/m² | Lighting: 10 W/m² | Occupants: 15
- Ventilation & Infiltration: Outdoor air: 10 L/s per person | Infiltration: 0.5 ACH  
Duct height: 6 Meters
- Cooling Load
  - » Sensible Load: 158 kW (68 W/m²)
  - » Grand Total (incl. latent & infiltration): 187 kW (81 W/m²)

### Proposed Solution

To meet the cooling demand, the Climate Wizard CW-H15S Plus indirect evaporative cooling system was selected due to its superior energy efficiency and optimal performance. The proposed solution provided the following outcomes,

- Units Required: 8 x CW-H15S Plus
- Total Cooling Capacity of up to: 180 kW
- Supply Air Temp at ambient temp 36.5°C: 16.2 °C
- Total Air Flow @ 80Pa ESP: 12,800 L/s
- Achieved Air Changes @ 6 m duct height: 3.3 ACH
- Total Input Power: 17.6 kW
- Integrated of two Multimagic Wall Controllers with two remote sensors for optimized unit and system management.

When compared to a traditional DX system (COP 2.9), the Climate Wizard setup represents a 72% reduction in peak power demand, saving 46.8 kW.

## The Outcome

Tesla's O'Connor Sales, Service, and Delivery Center sets a new benchmark in customer experience, technology integration, and sustainable facility design. Built to withstand harsh summer temperatures and accommodate premium workshop working conditions, the center leverages eight Climate Wizard CW-H15S Plus units to deliver up to 180 kW of cooling, with a supply air temperature of 16.2 °C and airflow of 12,800 L/s. The system achieves 3.3 ACH at 6 m duct height and operates with just 17.6 kW input power. Managed via dual Multimagic Wall Controllers and remote sensors, it provides precise zone control and operational flexibility. Compared to a traditional DX system, this solution reduces peak power demand by 72%, reinforcing Tesla's commitment to innovation and energy-efficient climate solutions.



### ASHRAE 0.4% Monthly Conditions (O'Connor Design Conditions) - Ambient - 36.5 °C DB / 19.8 °C WB / Indoor - 25.0 °C DB / 50% RH

|                  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Dry Bulb</b>  | 39.1°C | 38.4°C | 37.4°C | 32.4°C | 27.4°C | 22.9°C | 21.5°C | 23.3°C | 26.5°C | 31.2°C | 35.6°C | 38.0°C |
| <b>Wet Bulb</b>  | 21.3°C | 20.6°C | 19.5°C | 17.5°C | 15.6°C | 13.3°C | 13.5°C | 13.8°C | 15.0°C | 16.8°C | 17.7°C | 19.4°C |
| <b>Dew Point</b> | 11.7°C | 10.5°C | 8.4°C  | 7.4°C  | 7.0°C  | 5.5°C  | 7.4°C  | 6.4°C  | 6.3°C  | 6.6°C  | 4.8°C  | 7.6°C  |

### 8 x CW-H15S Plus (12,800 L/s @ 80Pa Max. ESP) - Performance for Stand-alone Cooling

|                                     |          |          |          |          |          |          |          |          |          |         |          |          |
|-------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|----------|
| <b>CW-H15S PLUS Supply Air Temp</b> | 17.6°C   | 16.8°C   | 15.5°C   | 14.1°C   | 13°C     | 11.3°C   | 11.9°C   | 11.8°C   | 12.4°C   | 13.5°C  | 13.6°C   | 15.3°C   |
| <b>Stand Alone Cap</b>              | 157.6 kW | 170.4 kW | 189.6 kW | 212.0 kW | 231.2 kW | 257.6 kW | 247.2 kW | 249.6 kW | 239.2 kW | 222.4kW | 220.8 kW | 194.4 kW |
| <b>Stand Alone COP</b>              | 8.96     | 9.67     | 10.78    | 12.06    | 13.13    | 14.65    | 14.05    | 14.18    | 13.60    | 12.62   | 12.56    | 11.04    |



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