

COMMERCIAL CASE STUDY



Rheem Commercial installation in Adelaide exceeds expectations for energy certification

OVERVIEW

Located at the heart of Adelaide's CBD, 60 King William Street is a carbon-neutralenabled building that blends modern workspaces, retail boutiques, and dining options. Managed by CBRE, this innovative tower prioritises sustainability, aiming to set a new standard for eco-friendly workplace design. To support its luxurious end-oftrip (EOT) facilities and base amenities, the building required an advanced, fully electric water heating system to achieve ambitious energy and water efficiency goals.

THE CHALLENGE

The building's EOT facilities include 70 luxury showers and gender-neutral bathrooms, demanding a reliable and efficient hot water system. The solution needed to:

- Be fully electric to align with the building's carbon-neutral objectives.
- Meet a 5 Star NABERS energy rating and a 4 Star NABERS water rating.
- Minimise operational costs while maintaining consistent hot water supply.
- Operate effectively in a sub-basement plant room with limited ventilation.

THE SOLUTION

Rheem Commercial, in partnership with Jordan Plumbing and the Integrated Controls Network (ICN) engineer, designed a stateof-the-art water-to-water (W2W) heat pump system. This solution was tailored to exceed the client's expectations for energy certification while delivering exceptional performance.

Key features of the system include:

High Efficiency: The W2W heat pumps achieve a Coefficient of Performance (COP) of 6 to 7, depending on configuration, by using waste heat from the building's systems, significantly reducing energy consumption.

Carbon-Neutral Design: As a fully electric solution, the system supports the building's sustainability goals and compliance with NABERS ratings.

Advanced Integration: Equipped with the Rheem iQ controller, the system integrates seamlessly with the Building Management System (BMS), providing real-time performance monitoring and diagnostics.

Reliability: Heating elements and storage tanks were installed to ensure a consistent hot water supply, even during peak demand.

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THE IMPLEMENTATION

Jordan Plumbing expertly installed the custom-designed W2W heat pump system, overcoming the challenges of the subbasement's limited ventilation. The installation delivers hot water at temperatures up to 65°C, ensuring comfort and reliability for the building's high-end facilities. The collaborative effort between Rheem Commercial, Jordan Plumbing, and key stakeholders ensured the system was precisely tailored to the building's needs, from initial sizing proposals to final commissioning.

THE IMPACT

The Rheem W2W heat pump system has elevated 60 King William Street's sustainability credentials, surpassing the client's expectations for energy and water efficiency. The system's high COP delivers significant savings on operational costs, while its carbonneutral design supports the building's 5 Star NABERS energy rating and 4 Star NABERS water rating. The seamless BMS integration ensures ongoing performance optimisation, making this project a model for sustainable building design.

THE KIT

- 2 x Water-to-Water 15kW heat pumps model 954015
- 5 x RT1000N9ALU-1 Storage Tanks model T1000
- 2 x Heating Unit with Sun Shield 15kW model 050350
- 1 x Rheem Redi-set Deluxe UPS20-60N
 model 99501272