



EMF Performance & Recovery Centre



Project Address
76–82 Gates Road, Flagstone QLD

Builder
Clarke's Design & Construct

Installer
Primo Air

Equipment
12 x Braemar Rooftop Package Units

Braemar RTP Solution delivering **powerful** cooling comfort.

Project Overview

The new gym development at 76–82 Gates Road in Flagstone required a high performance, energy efficient rooftop air conditioning solution capable of handling large, variable occupancy loads. The builder initially designed the project around three 195 kW units, but concerns emerged regarding energy consumption, zoning flexibility, and installation logistics.

Primo Air was engaged to provide an alternative solution that would meet the facility's demanding performance requirements while improving cost efficiency and meeting a tight construction timeline.

Challenges

High and Variable Cooling Demand

A modern gym environment with:

- Large open training areas
- High ceilings
- Group fitness rooms
- Office and reception spaces
- Heat generating equipment
- Fluctuating occupancy throughout the day

This required a system capable of delivering strong cooling performance while avoiding unnecessary energy use during off peak periods.

Limited Rooftop Space

The original design placed three large 195 kW units in a single cluster. Structural engineers raised concerns about:

- Concentrated load points
- Restricted airflow
- Challenging maintenance access

Tight Construction Program

The builder required a solution that could be delivered and installed within 12–14 weeks, aligning with the gym's planned opening date.

CUSTOMER PROFILE

Flagstone's largest performance and recovery hub spans over 2,000 m², featuring an 18-bed reformer Pilates studio, upper-level cardio and lifting zones, magnesium pool, recovery areas, smoothie and coffee bar, and an on-site crèche supporting children aged 6 months to 12 years.

INDUSTRY

- Gym & Fitness Centre
- Sport & Recreation

APPLICATION

- Stand-alone Cooling & Heating
- Controlled Comfort Levels
- Centralised Zone Control

System Design & Deliverables

Instead of the originally specified three large 195kW capacity units, Primo Air supplied twelve Braemar 51 kW Rooftop Package (RTP) units. This modular approach delivered several key advantages:

Flexible Zoning & Energy Efficiency

By distributing units across the roof, the gym can now:

- Activate cooling only in areas currently in use.
- Reduce energy consumption during low traffic periods.
- Improve comfort control in group fitness rooms, weights areas, and admin spaces.

This zoning capability is further enhanced by the ability to link multiple RTP units to a single wall controller, simplifying operation for staff.

Improved Structural & Airflow Performance

The smaller units allowed strategic placement across the roof, resulting in:

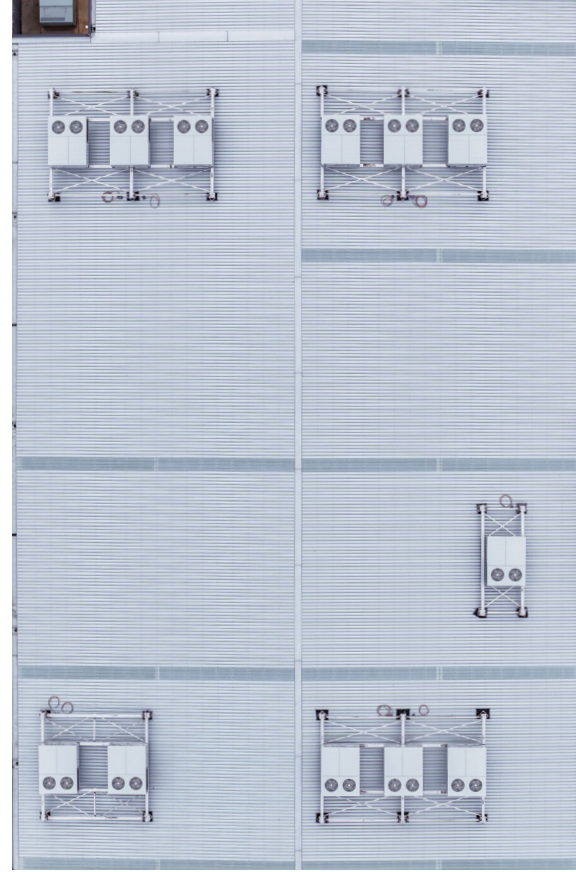
- Even load distribution.
- Better airflow around each unit.
- Safer and easier maintenance access.

Enhanced Durability

Each Braemar RTP unit includes:

- Black Fin Coil Protection for corrosion resistance.
- Weather resistant panels designed for harsh Queensland conditions.
- Redundancy uses a dual compressor configuration for continued operation during maintenance and service requirements.
- Flexible output capacity, using a DC Inverter compressor.
- Reliability, R32 refrigerant leakage sensor for safe operation.

These features ensure long term reliability in a high humidity, high UV environment.



Cost Benefits

Switching to Braemar delivered significant savings for both the contractor, builder and client:

Lower Equipment Cost

- The modular 51 kW units provided a more cost effective alternative to the originally specified large capacity systems.

Reduced Installation Costs

- Smaller units meant:
- Simplified crange
- Faster installation
- Less structural reinforcement required

Long Term Operational Savings

- The zoning flexibility is expected to reduce annual energy consumption by an estimated 18–25%, based on typical gym usage patterns.

Outcome

With the Braemar's 12–14 week lead time, it aligned perfectly with the builder's schedule and meeting the deadline. All units were delivered on time, allowing the mechanical contractor to complete installation without delays and ensuring the gym opened as planned.

The completed system provides:

- Reliable, high capacity cooling
- Flexible zoning for energy efficiency
- Durable equipment suited to Queensland's climate
- A cost effective solution that exceeded the builder's expectations



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