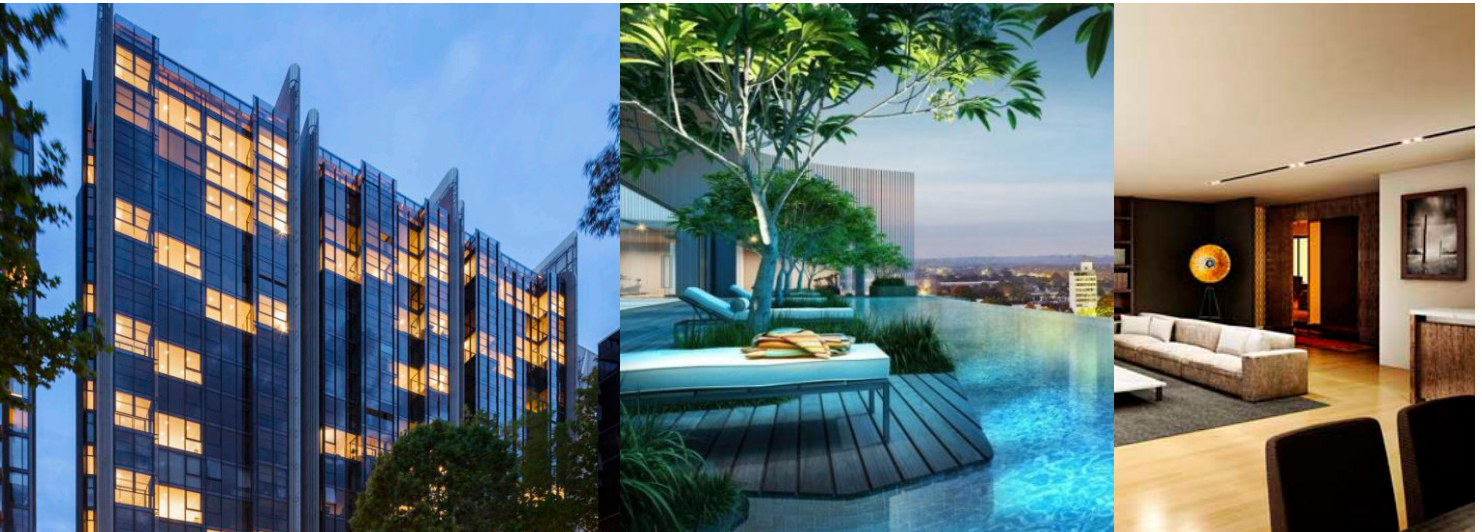


The 20-storey building features 242 apartments, an expansive foyer, ground-floor retail outlets, a top-floor gym and infinity-edged rooftop pool with stunning views over North Sydney.



Project Info

Application

Skye by Crown Group

Location

North Sydney, NSW

The Challenge

This landmark development required tenancies to have individual heating or cooling at the same time, power monitoring & apportioning.

Unlike typical developments, the top level would not be penthouses but a rooftop infinity pool and sundeck giving residents an outdoor lifestyle and sweeping views of the harbour city. This design reduces the available space for air-cooled air conditioning condensers. A floor dedicated to an air conditioning plant was also not a viable option.

The Solution

Mitsubishi Electric CITY MULTI water cooled heat recovery system was selected. Each level has a plant room, which closely resembles a broom closet, being a tight, sealed space without ventilation, designed to reduce noise levels. The condensers connect to the building closed water system.

This unique 2-pipe heat recovery system provides simultaneous heating & cooling. The efficiency of this system comes from the ability

The Team

Client

Crown International Holdings Group

HVAC Contractor

Waratah Airconditioning Services

to use the by-products of cooling and heating to transfer energy where it is required, acting as a balanced heat exchanger achieving energy savings over a conventional heat pump system.

TG2000 centralised control software was used to provide power monitoring and chargeback to the tenancies.

The Building Management System by Mitsubishi Electric included a DC-8000 controller to monitor & control pumps & ventilation equipment. The BMS manages water temperature for the heat rejection and heat injection systems for the water-cooled VRF system and the water temperature of the rooftop pool, and car park ventilation.

A centralised toilet exhaust system, managed by the BMS, controls two exhaust fans for all apartments on each floor, changing fan speeds as required. The centralised system compared to a single fan per apartment provided benefits such as reduced equipment to maintain and lower potential energy running costs.

UNIT INFORMATION



Outdoor Units

PQRY-P600YSHM-A x 1
PQRY-P450YSHM-A x 35
PQRY-P400YSHM-A x 1
PQRY-P300YHM-A x 2



PQRY-P250YHM-A x 35
PQRY-P200YHM-A x 35
PQRY-P200YHM-A x 2



Indoor Units

PEFY-P-VMA-E x 261



BMS

DC-8000 x 1



BNC

CMB-P1013V-GA1 x 1
CMB-P1010V-GA1 x 2
CMB-P108V-GA1 x 34



Controllers

AG-150A x 2
PAR-31MAA-J x 261
DC-8000 x 1

Commissioned: 2016