

# 45 KNIGHTSBRIDGE PARADE

SOVEREIGN ISLANDS, QUEENSLAND

## CASE STUDY

### PROJECT DESCRIPTION

Boasting 1,375m<sup>2</sup> of light-filled, living area and designed to take full advantage of the magnificent views of the Broadwater, hinterland and the park, this Hamptons inspired mansion offers the best living Queensland has to offer. Located on what's considered one of the best blocks on the Sovereign Islands, this newly developed, modern and lavish home was developed by G&T Developments.

### PROJECT REQUIREMENTS & CHALLENGES

Boasting 6 large bedrooms - all with en-suites, a spacious front entry with high 13m ceilings, multiple lounge rooms, a theatre room, fully equipped gym, a 10 car garage, two huge outdoor terraces and sliding floor to ceiling glass windows, this elegant home required a reliable heating and cooling solution that could ensure occupants comfort during Queensland's hot summers by delivering an even airflow to each corner of the large, 3 storey property.

The overall size of the property as well as the large amount of windows meant the chosen solution would need to be over 60kW in order to satisfy the heat load requirements of the project. In order to blend in seamlessly with the design of the multi-storey home, the chosen system would also need to be discreet and installed within the limited ceiling space on all levels. Given the high ceilings of the home, this would prove a challenge. While a large capacity system was required, it would also need to be energy efficient in order to keep running costs down during the peaks of the Queensland seasons, where in summer a +35°C day and very humid nights are common.

### MHIAA'S SOLUTION

Working closely with Arnelec's experienced team, and taking into consideration the size of the home, airflow and system capacity requirements, installation parameters, and comparing all viable solutions, it was decided that due to the varying spaces and purposes of rooms throughout this luxury home, a variety of discreet and compact ducted systems would be selected. These included the FDUT-low static (up to 35Pa), FDUM-medium static (up to 130Pa) and FDU high-static (up to 200Pa) ducted units.

### PROJECT DETAILS

45 Knightsbridge Parade West  
Sovereign Islands, QLD

### COMPLETION DATE

August 2018

### INDOOR UNITS INSTALLED

6 x FDUT36KXE6F/Ducted 3.6kW  
2 x FDUT45KXE6F/Ducted 4.5kW  
2 x FDU160KXE6F/Ducted 16 kW  
1 x FDU56KXE6F/Ducted 5.6kW  
1 x FDUM90KXE6F/Ducted 9.0kW

### OUTDOOR UNITS INSTALLED

2 x FDC335KXE6/33.5kW

### TOTAL SYSTEM CAPACITY

67.0kW

### BUILDER

G&T Homes

### CONTRACTOR

Phil Arnold  
0418 757 366



### MHIAA REPRESENTATIVE

Grant Shannon - 07 3385 0334

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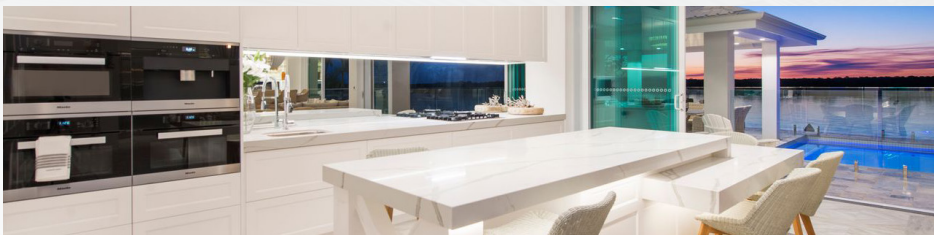
## MHIAA'S SOLUTION CONT.

Low static, low-profile FDUT ducted units were selected for the 5 of the bedrooms, the theatre room and the large office. Boasting a super slim profile of only 200mm and super quiet operation levels (only 22dB on low) the FDUT units were perfect for the bedrooms which had limited ceiling space and demanded quiet operation levels to ensure a good nights sleep for all occupants. Due to its larger size and bigger airflow requirement, the main bedroom called for a medium static unit and thus a FDUM ducted unit was installed.

Lastly, the FDU series of high static units were used for the spacious living and recreational areas including the lounge, kitchen, dining, gym and retreat. This would enable sufficient airflow in the key entertaining areas of the home, providing a balance of select indoor conditions with views from the floor to ceiling windows.

The power-plant consists of two, Micro KX series, FDC335KXE6 VRF condensers. These twin fan, horizontal discharge condensers, incorporate MHI's highly energy efficient components and while coming in a slim and compact design, are able to deliver a high output of 33.5kW each. In addition to this, MHI's hydrophilic blue fin technology is applied to all MHI VRF condensers, which sees the heat exchanger coated with specially formulated layers which reduces the chance of corrosion in harsh environments, making the KX series perfect for the job.

As well as a durable design, the FDC335KXE6 VRF systems are also extremely versatile. Boasting a maximum pipe run of 510m and with the ability to be connected to up to 24 indoor units each, with a maximum connection capacity of 50kW per condenser if required, they're perfect for a range of applications, specifically large scale homes such as this one. By working closely with Arnelec throughout project, MHIAA was able to overcome all challenges and deliver a high performance high-end and reliable solution for the gorgeous, high-end home that will deliver year round comfort for years to come.



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