

THORNLEY OLD SCHOOL

# Maximum Electrical Demand

## Air-to-Air Heat Source & Hot Water System

**PREPARED BY**

Tendera

Independent energy consultancy

**CLIENT**

Thornley Old School

Thornley Community Space

**ASSESSMENT DATE**

1 October 2026

Planning support note

### PURPOSE

This note summarises the anticipated maximum electrical demand of the proposed air-to-air heat pump and domestic hot water (DHW) heat pump installation. It is based on the equipment listed in Tendera proposal QTE00397 and is provided as supporting information for a planning application.

### PROPOSED EQUIPMENT

- 2 × Daikin 5MXM90A8 five-port R32 multi-split outdoor units.
- Main Hall: 3 × Daikin FVXM35B floor-standing indoor units.
- Foyer & Kitchen: 2 × Daikin FTXA35CS wall-mounted indoor units and 1 × Daikin CTXA15CS wall-mounted indoor unit.
- 1 × Daikin EKHHEU200PCV37 200-litre DHW heat pump with solar coil.

### MAXIMUM ELECTRICAL DEMAND

| EQUIPMENT                                | ASSUMED MAXIMUM CURRENT    | MAXIMUM DEMAND          |
|------------------------------------------|----------------------------|-------------------------|
| Daikin 5MXM90A8 outdoor units (×2)       | 21.7 A each at 230 V       | ≈ 9.98 kW / kVA         |
| Daikin EKHHEU200PCV37 DHW heat pump (×1) | 8.5 A at 230 V             | ≈ 1.96 kW / kVA         |
| <b>TOTAL</b>                             | <b>≈ 51.9 A equivalent</b> | <b>≈ 11.94 kW / kVA</b> |

**PLANNING ASSESSMENT FIGURE**

## Approx. 12 kW / 12 kVA maximum equipment demand

A working design allowance of approximately 14–15 kW is suggested.

### BASIS AND QUALIFICATIONS

- The calculation uses 21.7 A at 230 V for each 5MXM90A8 outdoor unit as the current planning assumption.
- The Daikin DHW datasheet states a maximum running current of 8.5 A at 230 V and identifies an integrated 1.5 kW heating element. The 8.5 A figure has been used for this estimate; no additional 1.5 kW has been added.
- The 14–15 kW allowance applies to the proposed heat pump equipment only. It is not the total maximum demand of the building.
- Final electrical design, including confirmation of manufacturer ratings, circuit protection, cable sizing, diversity and available supply capacity, is subject to the installer's detailed design.

**SOURCE DOCUMENTS** Tendera proposal QTE00397 (8 June 2026); Daikin Altherma DHW heat pump datasheet, EKHHEU-(P)CV37.