

63 The Avenue

eCO FOCUSED

Air conditioning equipment and predicted sound levels

25 September 2026 | Revision 03 | Preliminary design note

Proposal

One outdoor condenser at the labelled roof position behind the chimney, serving the ground floor and loft. Night-time operation is intended. No acoustic enclosure is proposed.

Provisional equipment

Location	Daikin model / provision
Roof	4MXM80A9 (4MXM80A2V1B9) outdoor condenser
Ground floor	Perfera FTXM60A wall-mounted indoor unit, 6 kW class
Loft bedroom	Perfera FTXM20A wall-mounted indoor unit, 2 kW class

Certified combination: **7.40 kW total cooling capacity**; outdoor cooling sound power **LwA = 61 dB(A)** [1]. Outdoor dimensions: **974 W x 408 D x 734 H mm**, excluding supports; weight 67 kg [2].

Selection is provisional, subject to a cooling-load and air-distribution check for the whole ground floor, including 10 m² hall, and loft. Indoor unit class sizes do not represent simultaneous delivered capacity.

Predicted sound at neighbouring windows

Assessment location	Distance¹	Predicted dB(A)
No. 61 rear dormer - closest part	4.8 m	39.5
No. 61 rear dormer - centre	6.3 m	37.0
No. 61 first-floor rear window - centre	6.3 m	37.0
No. 65 first-floor rear window - centre	10.7 m	32.4

Results are predicted A-weighted sound pressure levels, dB(A). Calculation: $L_pA = L_wA + 10 \log_{10}[Q / (4\pi r^2)]$. Q = 2 represents roof reflection only, adopted as a preliminary modelling assumption. No chimney screening reduction is included.

Calculation basis

¹ Approximate three-dimensional source-to-window distances derived from the supplied plan, section and elevations, assuming aligned neighbouring rear elevations and 100 mm condenser supports. The chimney is reported to exceed 1.5 m; no acoustic benefit has been assigned, it may be an effective barrier but it has not been included in the calculations.

The 61 dB(A) input is the published certified cooling value for the stated indoor/outdoor combination. No quiet-mode reduction, receptor-façade correction or sound-character penalty is applied. Results describe preliminary plant sound propagation.

Finding

No. 61’s rear dormer is the controlling receptor. At its closest part, the preliminary unscreened prediction is 39.5 dB(A). This note records equipment and predicted emissions.

Sources

[1] Eurovent: 4MXM80A9 / FTXM20A / FTXM60A - certified capacity and acoustics
[2] Daikin UK: 4MXM-A9 outdoor specification · FTXM-A indoor specification
Geometry: AVE-JHA-DR-A-06103 P1 AVE-JHA-DR-A-02103 P1 AVE-JHA-DR-A-03103 P1 and supplied existing elevations; rear photograph IMG_8890.