

MEMORANDUM

TO: Jessica Ferguson
MRPP

FROM: Nicholas Polo

DATE: 02nd May 2024

PROJECT: 38 Frognal Lane, London

RE: Condenser Enclosure

VIA EMAIL:
JessicaFerguson@mrpp.co.uk

The proposed size of the condenser enclosure is the result of a number of considerations taken into account to meet the project requirements. These include the condensers' physical size and system performance, the manufacturer's recommendations for airflow circulation, health and safety maintenance clearances, and noise attenuation for compliance with the Council's acoustic requirements.

The specified equipment to meet the heating and hot water requirements for the residence are 2/no. Mitsubishi Air Source Heat Pump Condensers models CAHV-P500Y-HPB each sized at 1.978m wide, 0.759m deep and 1.710m high. Alternative manufactures' condensers would be similar. The combined air discharge of the units is 6m³/s with an equal air intake, bringing the total air circulation to 12m³/s. The air intake and discharge need a physical segregation to avoid air recirculation and system performance derating.

The above results into the proposed acoustic enclosure size built with a Noico ventilation louvre of 7.5m² free area, a face air velocity of 1.6m/s and an approximate 40Pa total pressure drop (i.e. 20Pa per unit).

The condenser manufacturer has confirmed that the above meets their recommendation for the proper operation of the system while a smaller enclosure configuration would compromise the system's performance and would not secure manufacturer's warranties.