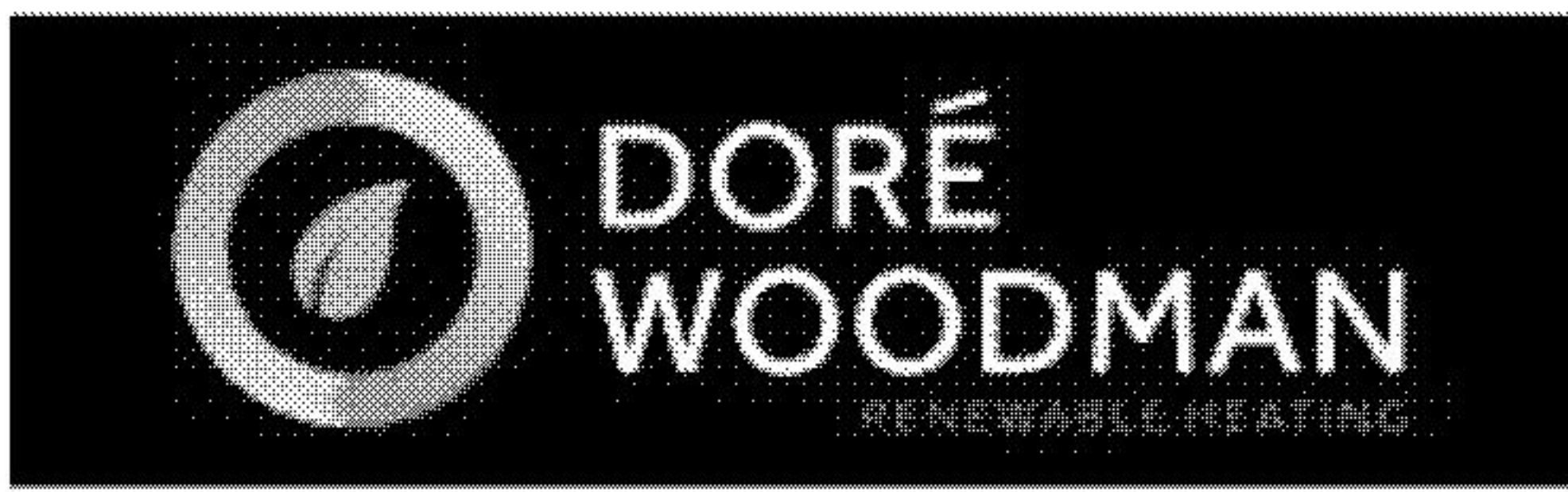




Air Source Heat Pump Noise Level Calculation

Dore Woodman Ltd
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Faraday Road
Crawley
West Sussex
RH10 9TF

Site Address:

1 Nightingale Close, East Grinstead, RH19 4DG

Date of calculation: 27/01/2025

This form is prepared in accordance to MCS 020, The Planning Standard for air source heat pumps. This is to establish that the proposed location of the air source has a noise level lower than 42 dB (A) and would not require planning permission from the local authorities.

For the purpose of the calculation procedure the following notes have been issued:

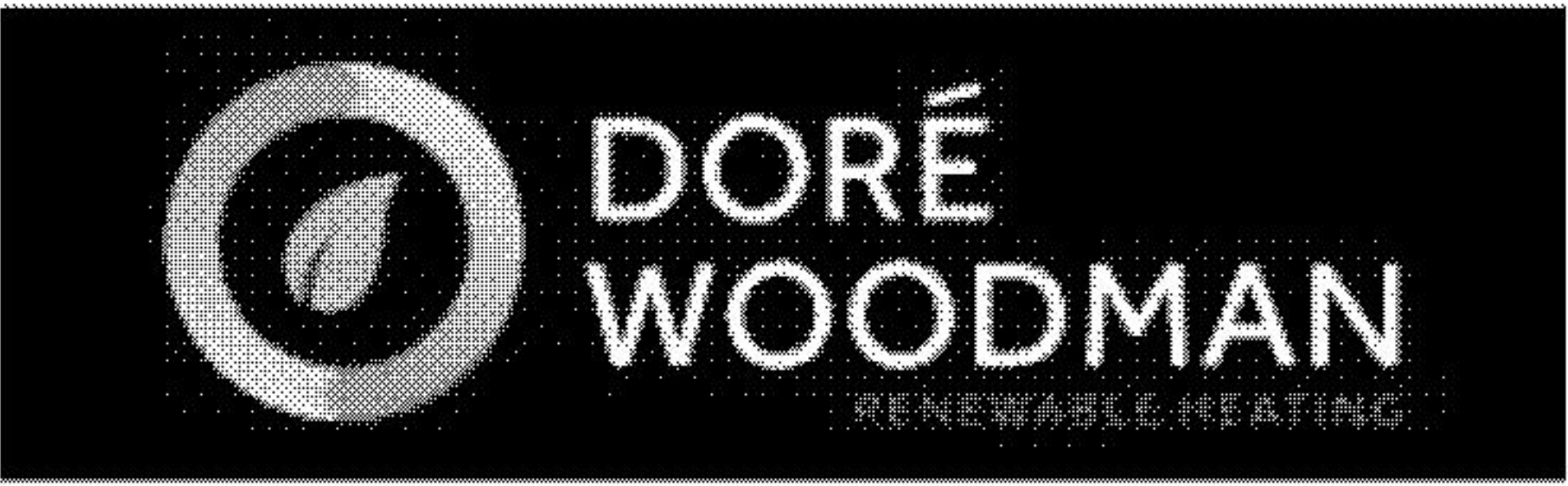
- Assessment position means a position one metre external to the centre point of any door or window to a habitable room of a neighbouring property as measured perpendicular to the plane of the door or window;
- Habitable room means a room other than a bathroom, shower room, water closet or kitchen;
- Neighbouring property means any building used for any of the purposes of Class C Town and Country Planning (Use Classes) Order 1987 (as amended) (includes dwelling houses, hotels, residential institutions and houses in multiple occupation). In instances where the air source heat pump would be installed on a block of flats, neighbouring property includes flats within the same block of flats (excluding the flat of the "owner(s)" of the air source heat pump).

Executive Summary:

The Noise Level Calculation has been assessed based on the Vaillant Arotherm Plus 10kW and 12kW or the Samsung 12kW heat pump models, all of which have the same projected sound pressure level. The calculation assumes the following parameters:

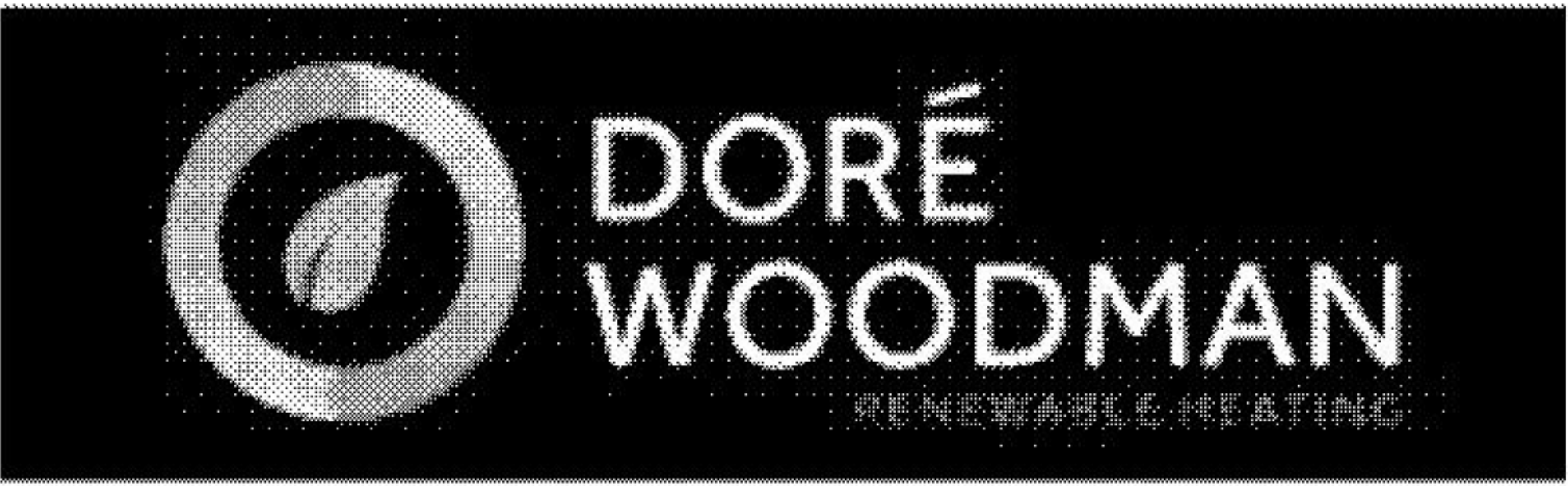
- The surfaces or walls in front of and to the side of the unit exceed 1 metre.
- The unit is not visible from the proposed neighbouring window.

If these parameters are met, the calculation will PASS for permitted development.



Air Source Heat Pump Noise Level Calculation

1. From manufacturers data, obtain the A-weighted sound power level of the heat pump. See “ <u>Note 1: Sound Power Level</u> ” below. The highest sound power level specified should be used (the power in “low noise mode” <u>should not</u> be used).	60
2. Use “ <u>Note 2: Sound Pressure level</u> ” and “ <u>Note 3: Determination of directivity</u> ” below to establish the directivity “Q” of the heat pump noise.	Q4 – “Two Reflective Surfaces”
3. Measure the distance from the heat pump to the assessment position in metres.	3
4. Use table in “ <u>Note 4: dB distance reduction</u> ” below to obtain a dB reduction.	-14
5. Establish whether there is a solid barrier between the heat pump and the assessment position using “ <u>Note 5: Barriers between the heat pump and the assessment position</u> ” and note any dB reduction.	Barrier (No View)
6. Calculate the sound pressure level (see <u>Note 2: Sound pressure level</u>) from the heat pump at the assessment position using the following calculation: (STEP 1) + (STEP 4) + (STEP 5)	36
7. Background noise level. For the purposes of the MCS Planning Standard for air source heat pumps the background noise level is assumed to be 40 dB (A)Lp. For information see “ <u>Note 6: MCS Planning Standard for air source heat pumps background noise level</u> ”	40



Air Source Heat Pump Noise Level Calculation

8. Determine the difference between STEP 7 background noise level and the heat pump noise level using the following calculation: (STEP 7) – (STEP 6)	4
9. Using the table in “ <u>Note 7: Decibel correction</u> ” obtain an adjustment figure and then add this to whichever is higher dB figure from STEP 6 and STEP 7. <u>Round this number up to the nearest whole number.</u>	42
10. Is the FINAL RESULT in STEP 9 lower than the permitted development noise limit of 42 dB (A)? If YES – the air source heat pump will comply with the permitted development noise limit for this assessment position and may be permitted development (subject to compliance with other permitted development limitations/conditions and parts of the MCS 020 standard.) NOTE – other assessment positions may also need to be tested. If NO – the air source heat pump will not be permitted development. This installation may still go ahead if planning permission is granted by the local planning authority.	YES