

# EMBARGOED to 2/2/26

## Air Source Heat Pumps Professional Advice Note (2026)

Air source heat pumps (ASHPs) are essential for achieving the UK's net zero carbon emissions target by 2050. This guidance offers general acoustics advice and proportionate approaches to acoustic assessments that remove unnecessary barriers to installations.

This advice note:

- ✓ Sets out clear advice on noise assessment approaches that are suitable to support planning applications to enable heat pump installations as sustainable heating and cooling sources, while minimising cost and bureaucracy for installers.
- ✓ Offers intermediate options between the MCS and BS4142 assessment approaches.
- ✓ Offers general advice pertinent to installations.

This guidance provides alternative assessment options for proposed ASHP installations to which Permitted Development Rights (PDR) do not apply. The guidance provides defined pathways for Local Planning Authorities, Environmental Health Practitioners (EHP<sup>1</sup>) and installers with simple compliance criteria provided for the majority of situations. Complex situations or sensitive locations may require more detailed assessments. It is for the Suitably Qualified Acoustician (SQA<sup>1</sup>) to identify and justify their choice of pathway, and for the EHP to agree or not, with the evidence-based justification.

	Method	When to apply
<b>PDR+</b>	MCS 020a	Where PDR is unavailable for non-acoustic reasons and no greater caution is needed the installer may offer a calculation to the MCS 020a for consideration by the EHP <sup>1</sup> .
<b>Level 1</b>	Desktop Calculations	Compliance with 37 dB(A)* criterion demonstrated through appropriate calculations carried out by an SQA.
<b>Level 2 Full Assessment</b>	Survey and predictions	Use Level 2 in exceptional circumstances only e.g., tranquil areas, or multiple units with significant risk of cumulative impact. The BS 4142 methodology may be used to ensure the adverse impacts are minimised as far as reasonable.

\*The sound level threshold of 37 dB(A) is an incident sound pressure level<sup>2</sup>, calculated at 1 m in front of the centre of a window or door to a habitable room as described in MCS 020a.

The alternative approach is supported by evidence and experience showing:

- (1) the fixed 37 dB(A) threshold already incorporates a margin for tonal characteristics;
- (2) Established European and Scottish practice has not led to an increase in complaints; and
- (3) Calculations by an SQA (which may include regard for ISO 9613-2 modelling) allows for more detailed predictions than MCS 020a.

### Cumulative Impact

Multiple units in close proximity may cause cumulative impact from combined sound. Greater care is needed in high-density environments where multiple units are likely to be co-located. Heat pumps installed over time could cause background creep, which may be relevant in Level 2 assessments and local planning policy. Cumulative impact is very unlikely for semi-detached and for terraced properties based on recent research; so it is only necessary to consider it for courtyards or flats, depending on local context.

### ASHP Sound Power Level Selection

MCS 020a presents the ErP<sup>3</sup> sound power level on the product label. The ErP sound power level represents typical operation, not the noisiest operating conditions.

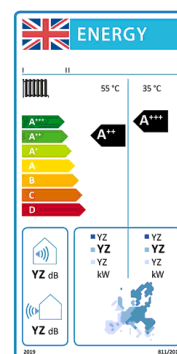
<sup>1</sup> SQA - Suitably Qualified Acoustician (SQA) or EHP - Environmental Health Practitioner to mean either a Corporate Member of the Institute of Acoustics with at least 3 years' relevant experience or Environmental Health Practitioner with at least 3 years of experience of noise assessment and management and supporting qualifications.

<sup>2</sup> BSI (1991) BS 7445-2:1991 Description and measurement of environmental noise. Guide to the acquisition of data pertinent to land use. London: British Standards Institution.

<sup>3</sup> ErP – Environmental Rating Performance

Manufacturers may also provide different sound power levels for different water supply temperatures, typically reported as "A7/W35", "A7/W45", "A7/W55" (where the number after A is air temperature and after W is water temperature). The value closest to the design water supply temperature for the installation should be used for predictions. Where data is also sometimes provided for cooling or defrost mode they too should be considered as part of a Level 1 assessment by an SQA as an alternative to the ErP Sound Power Level.

For Level 2 assessments the SQA will need to obtain information on any applicable acoustic characteristics associated with the ASHP, to ensure than an appropriate feature correction is included.



The ErP sound power level in the bottom left of the label may not be the appropriate value for the predictions

### Acoustic Design Considerations

Good acoustic design addresses noise at source and through careful site planning. Key strategies include:

- ✓ Occupant of the applicant's property: The noise exposure of the occupant (who could be a tenant) should be considered as good design practice to maintain reasonable protection of amenity spaces and habitable internal spaces for those benefiting from the ASHP.
- ✓ Location: Position units as far as practicable from sensitive receptors while balancing thermal efficiency requirements and constraints on proximity to windows or doors.
- ✓ Unit selection: Choose ASHP's with lower sound power levels if necessary, but remember noise is not the only consideration and a balance may need to be struck between energy efficiency and noise levels. Some units are located internally; consider placement of internal units and any external or ducted components.
- ✓ Barriers: Barriers (minimum 10 kg/m<sup>2</sup> impermeate) can effectively reduce sound transmission if they break line of sight from the receptor (a window for example) and the unit. Maintain manufacturer clearances to avoid airflow restrictions.
- ✓ Heat pumps rigidly fixed to buildings or the ground can transmit vibration into structures, causing noise to re-radiate inside the property. This can be annoying even at relatively low sound levels. Use vibration isolation mounts and pipe connections to prevent structure-borne transmission.
- ✓ Enclosures: Manufacturer-approved enclosures can reduce sound but risk air recirculation and reduced thermal performance. Use only as a last resort and with manufacturer approval.

### Planning Conditions

Planning conditions relating to noise will not typically be necessary for heat pump installations. Where there are particular concerns and it is necessary, and a condition may be justified, it should be simple and precise, meeting all of the tests required of a planning condition.

For Level 1 installations an example condition could be:

*The sound level emitted from the approved unit will not exceed 37 dB L<sub>Aeq,T</sub> free field equivalent, 1 m in front of the window to a habitable room of a neighbouring property. Where it is not possible to measure at the assessment location, appropriate corrections will be applied to data measured at an alternative location.*

For Level 2 installations an example condition (with 'X' defined from the assessment) could be:

*The sound level emitted from the approved unit will not exceed a rating level of X<sup>4</sup> dB L<sub>Ar,15min</sub> free field equivalent, 1 m in front of the window to a habitable room of a neighbouring property. The feature correction and rating level will be determined in accordance with BS 4142:2014+A1:2019. Where it is not possible to measure at the assessment location, appropriate corrections will be applied to data measured at an alternative location.*

<sup>4</sup> The rating level limit would need to be specified in the condition by the local authority. It may be relative to the background sound level adopted in the Level 2 assessment

The Institute of Acoustics (IOA) is the UK's professional body for those working in acoustics, noise and vibration.  
[www.ioa.org.uk](http://www.ioa.org.uk)

The Chartered Institute of Environmental Health (CIEH) is the professional voice for environmental health practitioners.  
[www.cieh.org](http://www.cieh.org)

Also in conjunction with The Association of Noise Consultants (ANC) is a trade association for acoustic, noise & vibration consultancy practices in the UK  
[www.association-of-noise-consultants.co.uk](http://www.association-of-noise-consultants.co.uk)



#### About this Good Practice Note

This note replaces previous guidance and has been produced by a joint working group of noise specialists, representing members of the Institute of Acoustics and the Chartered Institute of Environmental Health, including and with acknowledgement to:

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Consultation