



MCS Air Source Heat Pump Sound Calculator

This spreadsheet provides a calculation tool for carrying out the sound calculations required by MCS 020 a) "Air Source Heat Pump Calculation (For Permitted Development Installations)" and this document should be read prior to using this calculation tool.

MCS welcomes any suggestions for improvement or notification of errors. Please submit feedback to feedback@mcscertified.com

Please note the following:

- 1) The spreadsheet is locked and data can only be entered into editable cells. Some cells require a value input and others selection from a drop down list.
- 2) The "single heat pump" tab allows calculations in up to four assessment positions concurrently.
- 3) The "two heat pumps" tab allows calculations in up to four assessment positions concurrently that are impacted by both heat pumps.
- 4) The "four heat pumps" tab allows calculations in one assessment position that are impacted by up to four heat pumps. Please note this is outside the scope of MCS 020 a).

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Version 1.1

Project Details (optional)	
Installation address	
Heat pump make & model	
Heat pump installation location	

Step	Assessment Position 1	Assessment Position 2	Assessment Position 3	Assessment Position 4
1	Date calculation undertaken			
2	Description of assessment position	Ground floor Door	First floor Window	Ground Floor
3	A-weighted sound power level, dB(A)	62	62	60
4	Determination of directivity (Q) - select number of reflective surfaces	two reflective surfaces	two reflective surfaces	two reflective surfaces
5	Distance from heat pump to assessment positions, in m	4	6	4
6	Determination of barrier correction - select barrier type	close board fence (>=18mm thick boards)	close board fence (>=18mm thick boards)	close board fence (>=18mm thick boards)
	Determination of barrier correction - select line of sight	no view	partial view	no view
7	Calculate sound pressure level	35.0	36.5	33.0
8	Pass/fail noise limit of 37.0 dB(A)	pass	pass	pass

Highlighted cell for each model shows the minimum distance to meet sound pressure level at the assessment position equal to or lower than the permitted development noise limit of 37.0 dB(A) in England

Model, Sound Power Level & Capacity	Location Specific: Surface & Barrier Type	Assessment Position	Sound Pressure level at below assessment position from heat pump to neighbour's habitable room				Distance
			2 m	4 m	6 m	8 m	
EDLA04EV3 ; 58 dB(A) ; 4kW	2 reflective surface Close Board Fence No View	Closest assessment position; Ground floor door	37 dB(A)	31 dB(A)	27.5 dB(A)	25 dB(A)	
	2 reflective surface Close Board Fence Partial View	Closest assessment position; First floor Window	42 dB(A)	36 dB(A)	32.5 dB(A)	30 dB(A)	

Model, Sound Power Level & Capacity	Location Specific: Surface & Barrier Type	Assessment Position	Sound Pressure level at below assessment position from heat pump to neighbour's habitable room				Distance
			2 m	4 m	6 m	8 m	
EDLA06EV3 ; 60 dB(A) ; 6kW	2 reflective surface Close Board Fence No View	Closest assessment position; Ground floor door	39 dB(A)	33 dB(A)	29.5 dB(A)	27 dB(A)	
	2 reflective surface Close Board Fence Partial View	Closest assessment position; First floor Window	44 dB(A)	38 dB(A)	34.5 dB(A)	32 dB(A)	

Model, Sound Power Level & Capacity	Location Specific: Surface & Barrier Type	Assessment Position	Sound Pressure level at below assessment position from heat pump to neighbour's habitable room				Distance
			2 m	4 m	6 m	8 m	
EDLA08EV3 ; 62 dB(A) ; 8kW	2 reflective surface Close Board Fence No View	Closest assessment position; Ground floor door	41 dB(A)	35 dB(A)	31.5 dB(A)	29 dB(A)	
	2 reflective surface Close Board Fence Partial View	Closest assessment position; First floor Window	46 dB(A)	40 dB(A)	36.5 dB(A)	34 dB(A)	

Highlighted cell for each model shows the minimum distance to meet sound pressure level at the assessment position equal to or lower than the permitted development noise limit of 37.0 dB(A) in England

