MCS 020 - Planning Standards

Noise Assessment Calculations (Air Source Heat Pump)

Aira

Assessment date:	May 31, 2024	Assessment result:	PASS
MCS Installation company:	Aira		
Site Reference:	172 Alinora Crescent, BN12 4HW		
ASHP Manufacturer:	Aira		
ASHP Model:	12kW		

Assessment position description:

Front of property between living room windows. Assessment position across road

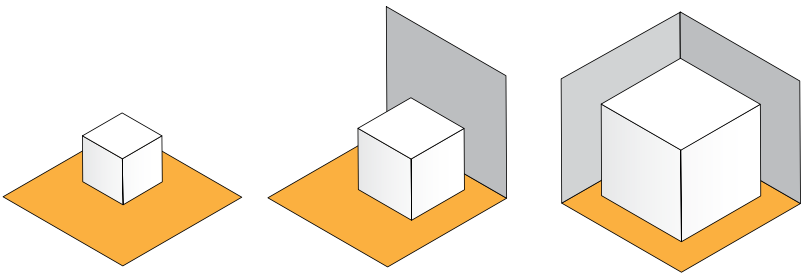


Step 1:	A-Weighted Sound Power Level from manufacturer	55.0
Step 2:	Determination of directivity (Q)	4
Step 3:	Distance from heat pump to the assessment position in metres	10
Step 4:	dB distance reduction	-25
Step 5:	dB reduction for any barriers between heat pump and assessment point	-5
Step 6:	Calculated Sound Pressure Level (Step 1 + Step 4 + Step 5)	25.0
Step 7:	Assumed background noise level	40
Step 8:	Difference between background noise level and heat pump noise level	15.0
Step 9:	Final decibel corrected sound level (< or = 42dB = Pass)	41dB

This assessment report was generated by **Heat Engineer Software Ltd**

To be used as guidance only

The results from this spreadsheet can be checked against the full calculation method as detailed in MCS 020 - Planning Standards



Q = 2 **Q = 4** **Q = 8**

Barriers (Step 5)	
Is there a barrier between the heat pump and the assessment point?	
A solid barrier (e.g, brick wall or fence) completely obscures the installers vision of the assessment position from the top edge of the ASHP	**-10**
A solid barrier completely obscures the installers vision of the assessment position from the top or side edges of the ASHP, but moving a maximum distance of 25cm in any direction of the ASHP allows an assessment position to be seen	**-5**
It is possible for the installer to see any part of an assessment position from the top or side of the ASHP	**0**

Decibel Correction (Step 9)	
Left column values apply to both positive and negative dB values	
Difference between the two noise levels (dB) (+/-)	Correction to be added to the higher noise level
0	**3.0**
1	**2.5**
2	**2.1**
3	**1.8**
4	**1.5**
5	**1.2**
6	**1.0**
7	**0.8**
8	**0.6**
9	**0.5**
10	**0.4**
11	**0.3**
12	**0.3**
13	**0.2**
14	**0.2**
15	**0.1**

	dB Distance Reduction (Step 4)													
	Distance in meters from Heat Pump (Step 3)													
	1	**1.5**	**2**	**3**	**4**	**5**	**6**	**8**	**10**	**12**	**15**	**20**	**25**	**30**
Q (step 2)														
2	-8	-11	-14	-17	-20	-21	-23	-26	-28	-29	-31	-34	-36	-37
4	-5	-8	-11	-14	-17	-19	-20	-23	-25	-26	-28	-31	-33	-34
8	-2	-5	-8	-11	-14	-16	-17	-20	-22	-23	-25	-28	-30	-31