

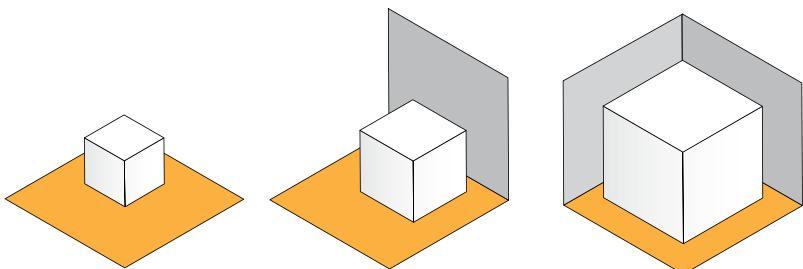
Libtek heating & Renewables

Assessment date:	6 Nov 2024	Assessment result:	PASS
MCS Installation company:	Libtek heating & Renewables		
Site Reference:	Church Road Surgery		
ASHP Manufacturer:	Vaillant		
ASHP Model:	Arotherm plus 10kw		

Assessment position description:

The assessment position is the first floor bedroom window of the nearest neighbouring property located behind the surgery and fully obscured from any view of the heat pump.

Step 1:	A-Weighted Sound Power Level from manufacturer	58.0
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	-10
Step 6:	Calculated Sound Pressure Level (Step 1 + Step 4 + Step 5)	23.0
Step 7:	Assumed background noise level	40
Step 8:	Difference between background noise level and heat pump noise level	17.0
Step 9:	Final decibel corrected sound level (< or = 42dB = Pass)	41dB



$$Q = 2$$

$$Q = 4$$

$$Q = 8$$

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

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

dB Distance Reduction (Step 4)

Distance in meters from Heat Pump (Step 3)

Q (step 2)	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
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