

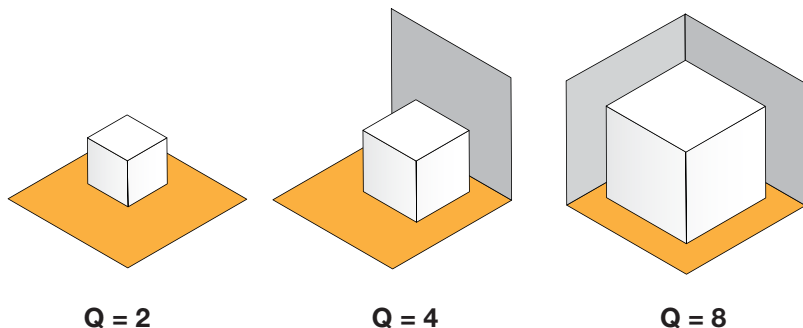
Libtek heating & Renewables

| | | | |
|---------------------------|-----------------------------|--------------------|-------------|
| 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 |



| 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) | | | | | | | | | | | | | |
| | 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 |