

Spire Renewables Heat pumps heat pump sound checker  
MCS020



| Heat pump                  | power dBa | pressure dBa |
|----------------------------|-----------|--------------|
| Samsung 5kW mono           | 61        | 45           |
| Samsung 9kW mono           | 63        | 48           |
| Samsung 12kW mono          | 64        | 50           |
| Samsung 16kW mono          | 65        | 51           |
| Samsung 4kW Split          | 53        | 61           |
| Samsung 6kW Split          | 57        | 61           |
| Samsung 9kW Split          | 57        | 64           |
| Samsung 12kW Split         | 59        | 64           |
| Samsung 14kW Split         | 60        | 64           |
| Samsung 16kW Split         | 61        | 66           |
| Hitachi 2.0                | 46        | 57           |
| Hitachi 3.0                | 50        | 53           |
| Hitachi 4.0                | 49        | 62           |
| Hitachi 6.0                | 50        | 59           |
| Hitachi 8.0                | 59        | 61           |
| Hitachi 10.0               | 60        | 62           |
| Mitsi 5kW mono             | 61        | 46           |
| Mitsi 8.5kW mono           | 58        | 45           |
| Vaillant Arotherm Plus 3.5 | 54        | 39           |
| Vaillant Arotherm Plus 5   | 54        | 39           |
| Vaillant Arotherm Plus 7   | 54        | 41           |
| Vaillant Arotherm Plus 10  | 60        | 45           |
| Vaillant Arotherm Plus 12  | 60        | 45           |

Sighting the outdoor unit:

In a recent change to the rules installers will no longer require planning permission for heat pumps. As part of the PDR (Permitted Development Rights) planning permission will no longer be required as long as a few rules are adhered too. There is a form in MCS called MCS020 which needs to be filled in to meet this requirement the calculator below duplicates the MCS020 and makes it easy to use

Planning permission, rules for air source heat pumps:

Only one heat pump can be installed without planning permission  
DON'T use this calculator if more than 1 heat pump is being installed, two units need planning permission.  
About the unit  
It must be less than 0.6m^3 in size      **NOTE Hitachi Mono 4-5 and 6HP are 0.63m^3**  
It must not be mounted on the side of the building facing the highway or be visible from the highway.  
It must not exceed 45dBa as measured at the nearest window of the next door neighbour's property.  
It must be installed by MCS installer as part of the MCS scheme.  
all details are in the table here from MIS3005

insert your details here

insert your logo here

|      |                                                                                                                                                                                                                                                               |                           |               |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------|
| Step |                                                                                                                                                                                                                                                               |                           | results       |
| 0    | what unit are you installing taken from mcs run page                                                                                                                                                                                                          | Vaillant Arotherm Plus 12 |               |
| 1    | sound <b>power</b> level from table above                                                                                                                                                                                                                     |                           | 60 dBa        |
| 2    | databook sound <b>pressure</b> level from table above                                                                                                                                                                                                         |                           | 45 dBa        |
| 2a   | how many surfaces (walls, floor and roof) are within 1m of the unit                                                                                                                                                                                           | 2                         | 4 directivity |
| 3    | measure the shortest distance in metres from the middle of the heat pump to the nearest door or window of the neighbours property. We call this the assesment point. The measurement must be to a room other than a bathroom, shower room, toilet or kitchen. |                           |               |
| 3a   | type in distance metres, whole numbers rounded up please                                                                                                                                                                                                      | 35 m                      | 35 dBa        |
| 4    | decibel reduction                                                                                                                                                                                                                                             |                           | -34 dBa       |
| 5    | answer <b>yes to only one</b> of the following                                                                                                                                                                                                                |                           |               |
| 5a   | if you stand in front of the heat pump can you see the assesment point window / door                                                                                                                                                                          | no                        | FALSE         |
| 5b   | if you move 25cm from the unit can you see the assesment point window / door from the heat pump                                                                                                                                                               | no                        | FALSE         |
| 5c   | is there a solid wall or fence between the heat pump and the neighbours house                                                                                                                                                                                 | no                        | FALSE         |
|      | decibel reduction                                                                                                                                                                                                                                             |                           | 0             |
| 6    | calculated Sound <b>pressure</b> level of installation                                                                                                                                                                                                        |                           | 26 dBa        |
| 7    | mcs assumed background noise level                                                                                                                                                                                                                            |                           | 40 dBa        |
| 8    | difference between heat pump noise and background                                                                                                                                                                                                             |                           | 14 dBa        |
| 9    | correction factor                                                                                                                                                                                                                                             |                           | 0.2 dBa       |
| 9a   | New corrected Sound pressure level                                                                                                                                                                                                                            |                           | 40.2 dBa      |
| 10   | the figure in step 9a MUST be below 42dBa to pass as permitted development                                                                                                                                                                                    |                           | PASS          |