

“THE HEAT PUMP FILES”

UNDERSTANDING SOUND



There are many misconceptions about the amount of sound heat pumps make and many different claims from manufacturers about what their units do. This document is provided to help users understand this data and make informed decisions on what heat pump they should get.

Can I directly compare sound?

Not really. While all heat pump manufacturers are required to test their units against a given standard for sound, the units are tested in different laboratories, and therefore there can be some variances between results. While the variances should be small, the only true way to compare between units is to hear them running side by side in the same conditions.

Does a bigger capacity heat pump make more noise than a smaller one?

Yes it will. In general terms, noise is directly related to the amount of air the heat pump is moving. To produce more heat, bigger capacity units need to move more air than smaller units, so generally a bigger unit will make more noise than a smaller one.

Will my heat pump always produce the same sound level?

No. As sound is related to the amount of air movement, a heat pump will produce more noise on high fan speed than it will produce on low fan speed.

High fan speed most often occurs straight after starting up, when the heat pump is trying to deliver maximum capacity to get your room to temperature as soon as possible. As the room gets closer to temperature the fan should slow down, reducing the amount of sound produced. A correctly sized heat pump should have the room temperature under control, and the fan starting to slow down within approximately 15 minutes of starting up. After that a lower fan speed should be able to keep the room temperature constant.

This is why it is very important to have a correctly sized heat pump, as an undersized unit will be louder for longer.

Will my room make a difference to the sound?

Yes it will. If you have a heat pump unit in a room with hard surfaces and few furnishings it will seem noisier than the same unit in a room with more furnishings, drapes, etc. The distance you are away from the heat pump also dramatically effects the amount of sound perceived, so the mounting position within the room can be very important.

How should I decide what noise level is acceptable to me?

Some heat pump advertising creates confusion as they quote noise levels for the smallest capacity units operating on the lowest fan speed. Almost all situations will require a bigger capacity unit or a higher fan speed than this.

Sound levels for the correctly sized heat pump, operating in its normal condition, should be compared and referenced against the following table given for guidance:

10 dB(A)	= Gentle breathing
25 dB(A)	= Approximate limit of human hearing
30 dB(A)	= Whisper
40 dB(A)	= Interior of a library
50 dB(A)	= Running stream
60 dB(A)	= Normal conversation