Snapshot: Installation of air conditioners and evaporative coolers

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Did you know noise from air conditioners and evaporative coolers can disturb your neighbours, disrupt their sleep and interfere with their normal daily activities?

Be a good neighbour

Before purchasing and installing reverse cycle air conditioners, heat pumps, pool pumps, evaporative coolers etc ensure that you consider the location in relation to neighbours.

It is a good idea to discuss noise concerns with neighbours before installing equipment that emits noise.

If a noise issue does arise, take the time to talk to neighbours and ask them for suggestions about solving any problems.

You may also wish to consider dispute coaching or mediation through the Conflict Resolution Service by phoning 6190 7100. This service is free and confidential for neighbourhood disputes.

Seek advice from the installer on whether the unit will comply with noise standards in the proposed location or refer to the Australian Institute of Refrigeration, Air Conditioning and Heating guide to help you decide which cooling system may best meet your needs and the relevant noise standards. Visit airah.org.au

Legal requirements

The ACT noise limits or standards are detailed in Schedule 2 of the Environment Protection Regulation 2005. The noise standards permit higher noise levels in industrial areas and much lower levels in residential areas.

The Environment Protection Authority (EPA) is responsible for enforcing these limits including noise limits for air conditioners.

Will my air conditioner comply?

Noise levels are measured at the boundary of the property emitting the noise. If the noise is coming from a unit (such as a flat or a townhouse) located within a multiunit complex, the noise limit may be up to 5 dB(A) lower than if it was coming from a house.

Any noise generated within the common use areas of complexes is a matter for the body corporate to deal with.

It is important to select an appropriately sized air conditioner which will comply with the noise standard and have it installed in an area that will not affect your neighbour.

If an air conditioner exceeds the limits below, the EPA can issue an Environment Protection Order and an on-the-spot fine.
### Table 1: Noise standards in residential areas

<table>
<thead>
<tr>
<th>Location</th>
<th>7am-10pm Monday to Saturday</th>
<th>10pm-7am Monday to Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic centre and other major town centres (Belconnen, Gungahlin, Woden and Tuggeranong)</td>
<td>60 dB(A)</td>
<td>50 dB(A)</td>
</tr>
<tr>
<td>Group centres such as Dickson and Kingston</td>
<td>55 dB(A)</td>
<td>45 dB(A)</td>
</tr>
<tr>
<td>Smaller local centres such as Griffith and Lyneham</td>
<td>50 dB(A)</td>
<td>35 dB(A)</td>
</tr>
<tr>
<td>Residential Zones</td>
<td>45 dB(A)</td>
<td>35 dB(A)</td>
</tr>
</tbody>
</table>

### Shopping for an air conditioner

When choosing an air conditioner, consider how the unit will be operated, the times you will be running it, and check the sound power level on the unit label or in the production specifications.

Do you only want to run the unit during the day or also during the night? Check Table 1 for the right noise standards and then check the sound power level on the unit label or in the product specifications.

The smaller the number of dB(A) on the label, the quieter the air conditioner. Comparing levels on units of the same capacity allows you to choose a quieter unit.

You may find that the sound power level label on an air conditioner is 60 dB or more and wonder how it could comply with a legal limit of 45/35 dB(A). This can be explained by the following comparison.

A light globe with a power rating of 60 watts has a certain intensity of light at the actual globe, but with distance this intensity decreases, although the power of the globe remains at 60 watts.

Similarly, the noise level of an air conditioner with a sound power level of 60 dB will decrease as distance from the unit increases.
Negotiating the contract

When signing a contract for sale and installation of an air conditioner in a residential area, insist on a clause to cover you in the event of a noise problem. A suggested clause is as follows:

The air conditioner, as installed, will comply with the ACT Environment Standards by not exceeding a noise level of 35 dB(A) when measured on an adjoining residential property (or 30 dB(A) for a flat or townhouse in a multi-unit complex).

*Note: the noise level for the suggested clause would need to be adjusted for the relevant land use and associated noise limit or standard that applies to that land use.

This will ensure that the air conditioner can be used at any time without restriction.

If a retailer refuses to cooperate with this requirement, choose one who will. All reputable air conditioner installers should be aware of the requirements and are usually able to give good advice.

Selecting installation position

The location of the air conditioner is the most important factor in ensuring noise is not going to be intrusive.

Placing the unit at the side of your house close to the neighbour’s house is likely to create excessive noise, as the noise is trapped and reflected between the walls and eaves of the two houses. A fence has limited value in reducing the noise in this situation, unless it is solid and is as high as the eaves of the houses.

Placing the air conditioner on the rear wall facing the backyard, or on a front or side wall facing the street, reduces the noise reaching neighbours. Also, if the noise is found to be excessive, it is a simple task to construct a barrier to shield the neighbouring property from the noise.

Enclosing the air conditioner

If an air conditioner must be put at the side of a house because no reasonable distance from a neighbour can be found, a practical alternative to reduce the noise is to install an acoustic enclosure.

Acoustic enclosures are custom built and must incorporate correctly designed ventilation. They need to be built and fitted in conjunction with the manufacturer of the air conditioner in order to maintain the warranty on the unit.

Enclosures are expensive and you would be wise to seek a guarantee from the installer on the expected noise level before taking this option.

Allow for a noise increase

Over time, air conditioners, like many other machines deteriorate due to use. This deterioration may be accompanied by an increase in noise from worn bearings, cabinet rattles, dirty or rusty fan blades, worn rubber mountings and compression wear.

Some of the increased noise can be reduced by regular maintenance. However, you should allow for a slight increase in noise over time when installing the unit.

Evaporative coolers

Roof mounted evaporative coolers are generally quieter than refrigerated units. However, the noise level between models does vary. While evaporative coolers do not come with sound power level labels, manufacturers should be able to provide sound power levels for each model. Ask your retailer for these prior to purchase.
**Installation position of evaporative coolers**

Some high capacity evaporative coolers may be excessively noisy when mounted on a roof that slopes towards a neighbour’s yard, particularly if the unit is on the lower portion of a roof with a steep pitch. To minimise reflected noise it’s best to locate an evaporative cooler as high on the roof as possible.

If your neighbour’s land is much higher than yours and your air conditioner is likely to be level with their backyard, the noise reaching your neighbour will be greater.

De-rating (slowing the motor down) is generally the only way to quieten noisy evaporative coolers. Again, ensure that the installer or retailer can guarantee in writing that the evaporative cooler will not create excessive noise above the noise standards before signing a contract.

**What can be done about excessive noise?**

1. Inform yourself of your rights and responsibilities regarding noise. Visit act.gov.au/noise
2. Discuss your noise concern with the person causing the noise. Many noise concerns can be resolved with a simple conversation. For tips on how to start the conversation visit act.gov.au/noise or if you need further help contact the Conflict Resolution Service on 6190 7100 or email mediation@crs.org.au
3. If you are unable to resolve your noise concern, you can lodge a complaint via act.gov.au/fixmystreet. Please note a complaint will only be considered if it is made by the person affected by the noise.
4. In the first instance a letter will be sent to the person making the noise.
5. If the noise continues to be an issue, the matter will be investigated. Should the noise be found to be above the noise standards a warning letter, a fine or an Environment Protection Order (EPO) may be issued. Breach of an EPO is a serious offence and could lead to prosecution in court.

**For more information**

For further information call the EPA on 13 22 81 or email environment.protection@act.gov.au

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act.gov.au/accessCBR