

# Noise: mufflers or exhaust silencers



Environment  
Protection  
Authority Victoria



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Hazard control guidance sheet

## Using mufflers or exhaust silencers to eliminate or reduce the risk of harm from noise

### Description

Mufflers or exhaust silencers, sometimes called expansion chambers, are used to control noise from mechanical exhausts or mobile plants. They usually contain either a lining that absorbs sound, or an expansion chamber that reduces exhaust noise. More specific mufflers with tailored designs can also address more specific noise sources (reactive mufflers).

Mufflers are typically installed at the end of the exhaust system and come in many shapes and sizes to suit different purposes.

The design most suitable for your purpose will depend on frequency (in Hz) of the noise produced.

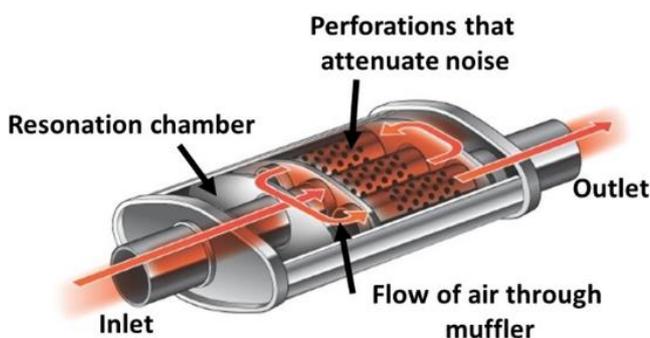


Figure 1. Design of a basic muffler.

### Type of control

Physical.

### When to use this control

Mufflers are generally only used in mechanical exhaust systems.

### Suitable for:

- cars
- buses
- excavators
- diesel forklifts
- trucks
- crushers
- generators
- air compressors and other similar mechanical exhausts or mobile plants.

**Industries that would use this:** a range of industries. If you use equipment with an exhaust, it could benefit from a muffler.

### Details and considerations

The addition of a muffler to an exhaust system can reduce noise by up to about 15-25 dB(A)\*.

\* A frequency weighting that represents the human response to sound and its frequency variation in a typical range of magnitude for environmental noise levels.

### More information

See our website: [epa.vic.gov.au/for-business/find-a-topic/noise](http://epa.vic.gov.au/for-business/find-a-topic/noise)

Contact us:  
**1300 372 842 (1300 EPA VIC)** or  
[contact@epa.vic.gov.au](mailto:contact@epa.vic.gov.au)

The actions you take and the controls you decide to implement will support you to comply with your [general environmental duty](#) and other duties under the *Environment Protection Act 2017*.



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## Things to consider:

- If a muffler is not kept in good condition, not well maintained or if an inadequate muffler is installed, its noise reduction performance can be significantly impaired. Replacing an existing defective muffler can reduce noise by 5-10dB(A). For the selection of the correct muffler for your equipment, you can contact your equipment supplier. Installation of the muffler should be conducted following the manufacturer's instructions to ensure it is effective.
- Muffler performance will degrade over time as the muffler becomes clogged or worn. It is suggested that you replace your muffler every 5–10 years, or as necessary for your equipment. You can refer to the manufacturer's instructions for best practice for your muffler.
- Sometimes noise from the engine bay can be louder than the noise from the exhaust. Therefore, it is important to consider an engine cover in this case. If your engine cover is already in place, ensure it is in good repair (no holes, rattling, etc.).
- In addition to mufflers and engine covers, further noise mitigation may include [barriers or enclosures](#) (publication 1886). It is important in any circumstance to ensure equipment is kept maintained or in good repair and replaced when necessary to maximise its effectiveness.



## Engaging an acoustic consultant

An acoustic consultant will typically be a person who is eligible for membership of the [Australian Acoustical Society](#). The business a consultant works for will typically be a member of the [Association of Australasian Acoustical Consultants](#).

See [Work with an environmental consultant](#) (EPA website) for general information about how to engage a consultant.



This control is an *example or option only* of what you could put in place to eliminate or reduce the risk of harm to human health and the environment. You can implement other controls, so long as you can demonstrate you have eliminated or reduced the risk of harm as far as [reasonably practicable](#) (EPA website).

## Disclaimer

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