

AIR CONDITIONER NOISE REDUCTION

Reducing Compressor Noise

Recommendations

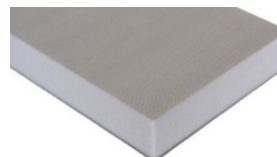
- Build a partial enclosure around the air conditioning unit, and line with Megasorber FM50G-RG, or P50G-RG
- Fix Megasorber FM50G-RG or P50G-RG to the wall or fence above the compressor
- Install Megasorber D14 to the compressor unit to reduce vibration (if necessary)
- Install Megasorber FM25G-G to the inside of the compressor unit (if necessary)

Recommended Products

FM50G-RG

50mm Lightweight Acoustic Panel (Grey) with Water Repellent Soundmesh G8 Facing (Grey)

Standard Panel size: 2.4m x 1.2m



FM25G-G

25mm Lightweight Acoustic Panel (Grey) with Soundmesh G8 Facing (Grey)

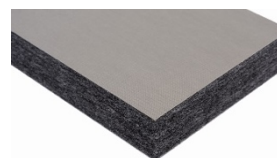
Standard Panel size: 2.4m x 1.2m



P50G-RG

50mm Acoustic Polyester Panel (Grey) with Water Repellent Soundmesh G8 Facing (Grey)

Standard Panel size: 2.4m x 1.2m



T75GR-50

Self-adhesive Soundmesh G8 Tape (Grey)

Roll size: 75mm x 50m



D14

Self-adhesive vibration damping sheet

Sheet size: 500mm x 260mm



Partial Enclosure

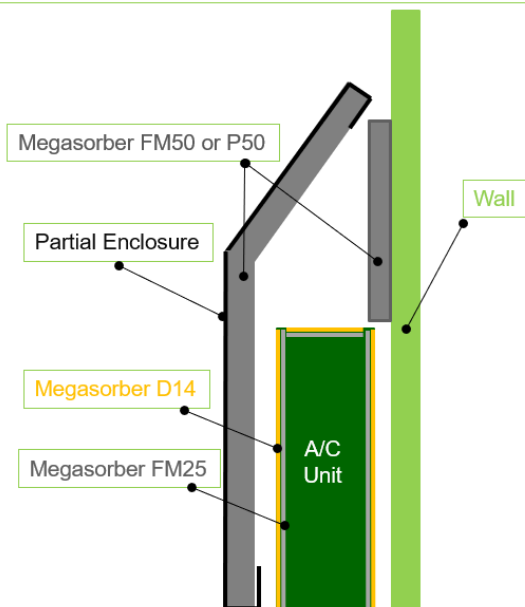
The construction of a partial enclosure is the first step in treating air conditioning unit noise. Each air conditioning unit and home is different and so the enclosure can take on a number of different forms, depending on your preferences and budget.

The below schematics show the suggested structure – a front panel, two angled sides (these can be hinged for easier servicing/access), and an angled roof piece.

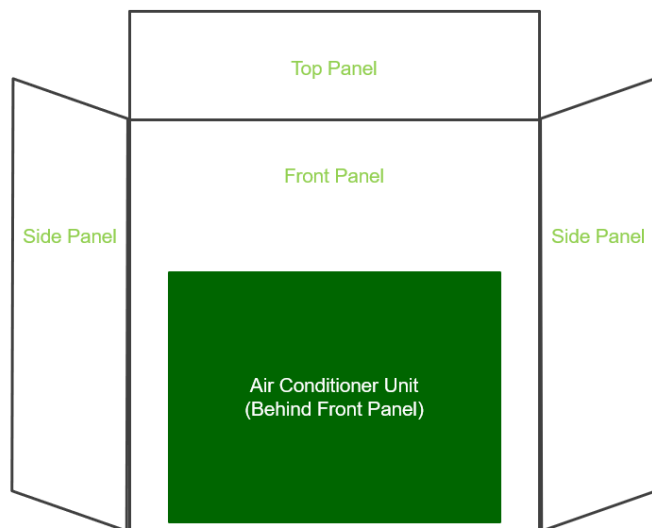
The enclosure can be made from a variety of materials – fibre cement sheet, marine ply, Colorbond, or similar are all suitable materials.

When designing and constructing the enclosure, please check your unit's manual for required clearance around each side, to ensure you have sufficient airflow to fans etc.

Air Con Unit Partial Enclosure Side View



Air Con Unit Partial Enclosure Front View



Acoustic Lining

Once your enclosure is built, this should then be lined with 50mm Megasorber acoustic panels – either the FM or P range could be suitable for your needs, depending on your geographic location and position of the enclosure. Where panels are more likely to be subject to higher humidity or rainfall, the P range is better suited.

Line the inside of the entire enclosure – you may opt to use T75 tape to seal joints between panels, or alternatively a Colorbond trim or similar can be used.

We recommend using a flashing/trim of some kind on the exposed panel edges to reduce the ingress of water into the panel, thus extending its service life.

For best results, install an additional 50mm panel on the wall above the air conditioner unit – this reduces the reverberative area and helps absorb additional noise energy that may be reflected back onto the wall from the unit.

Vibration Control

For older units that generate more vibration, or structure borne noise, this can be remediated through the use of rubber mounts for installation (this is also important for wall mounted units), and installation of Megasorber D14 sheets on the unit itself.

If required, FM25 can also be installed on the inside of the unit for additional absorption of structure borne noise. Note that installation of materials on/inside the unit itself may void the warranty of the air conditioner.

Aesthetics

There are various finishes available depending on your preference – please see below images of previous installations as an example of an adaptation of our enclosure.



Adaptation

The full enclosure may not be required or practical in all situations – the schematic should be adapted to your specific unit location and surrounding walls, fence or other structure that may impact reverberation of noise. For specific recommendations, please send photos through to our team and we will assist accordingly.

Performance

As each unit and enclosure will perform differently, it is difficult to provide a specific estimate of the expected reduction in noise. Please see below example where sound level measurements were taken before and after installation of a partial enclosure adapted from our schematics:



1m in front of unit

Before Treatment: 100.4dB
After Treatment: 69.8dB

Reduction: 30.6dB



3m in front of unit

Before Treatment: 88.0dB
After Treatment: 61.5dB

Reduction: 26.5dB