



All 4 One Engineering Limited

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Acoustic Louvers – Technical Overview

Introduction

Acoustic louvers are designed to provide effective sound attenuation while allowing the passage of air. They are widely used in mechanical and industrial buildings, plant enclosures, and HVAC systems where both ventilation and noise reduction are required. This document outlines the technical details, applications, and benefits of acoustic louvers for your reference and specification needs.

Key Features

- **Sound Attenuation:** Typically achieves reductions from 6 dB to 25 dB depending on model and frequency range.
- **Weather Resistance:** Includes features like drainable blades, weather baffles, and water resistance for external use.
- **Airflow Performance:** Designed to maintain required airflow with low pressure drop.
- **Material Options:** Galvanised steel, aluminium, stainless steel, or powder-coated finishes.
- **Modular Design:** Allows multiple louvers to be installed in larger wall openings.
- **Optional Extras:** Bird mesh, insect screens, filter frames, and blanking plates.

Common Applications

- Plant rooms and generator enclosures
- Data centres and server rooms
- Commercial buildings (AHU and HVAC installations)
- Acoustic screens and barriers
- Industrial buildings and factories

Technical Specifications

- **Blade Types:** Chevron (V-blade), straight blade, and aerodynamic profiles
- **Thickness:** Common options are 100 mm, 150 mm, and 300 mm depths
- **Sound Reduction:** Up to Class A3 performance (based on ISO 10140 / EN ISO 717)
- **Pressure Drop:** Varies depending on blade type and free area ratio (typically 30–50%)
- **Face Velocity:** Typically rated at 2–4 m/s
- **Installation:** Flanged or non-flanged frames, mullion systems for modular units

Design Considerations

- **Orientation:** Vertical or horizontal blade orientation depending on design
- **Environment:** Corrosion resistance should be specified for marine or chemical environments
- **Maintenance:** Access doors or removable blades available for servicing needs
- **Aesthetic Options:** Louvers can be colour matched to surroundings or integrated into façade design



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Certification and Standards

- Acoustic performance tested in accordance with ISO 10140-2 and ISO 717-1
- Airflow tested to BS EN ISO 5167 or equivalent
- Weather resistance tested under BS EN 13030 for rain penetration
- Fire ratings available on request (BS 476 / EN 13501 compliant options)

Summary

Acoustic louvers offer a practical and efficient solution for controlling noise while ensuring airflow in mechanical and industrial environments. With a wide range of sizes, finishes, and performance options, they can be tailored to suit project-specific acoustic, airflow, and aesthetic requirements. For custom specifications, technical drawings, please contact us directly.