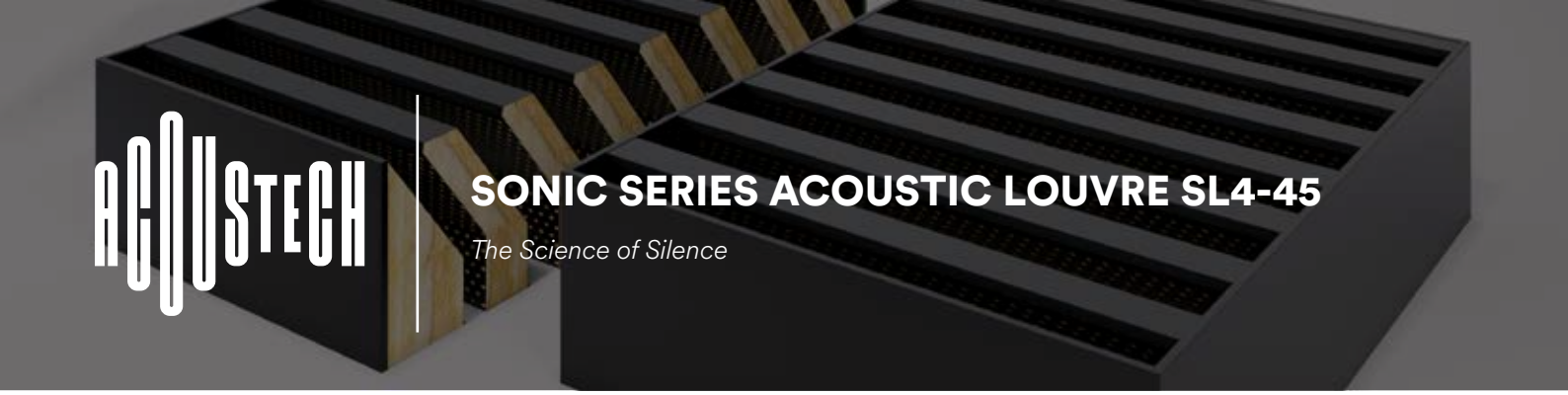


# SONIC SERIES ACOUSTIC LOUVRE SL4-45

*The Science of Silence*

## PRODUCT OVERVIEW

The Sonic Series acoustic louvre SL4-45 is a 450mm deep acoustic louvre designed to provide controlled airborne sound reduction while maintaining airflow performance. Use it where increased acoustic attenuation is required and system depth allows for a deeper louvre configuration.

Developed to balance acoustic, aerodynamic and weather performance requirements, the SL4-45 provides greater airborne sound reduction compared with shallower Sonic Series configurations, while maintaining high airflow performance through a 35% free open area.

**The product balances three competing requirements:**

- Acoustic attenuation
- Aerodynamic efficiency
- Weather protection

## KEY FEATURES

- 450mm deep acoustic louvre
- Rw 29 (C −1, Ctr −3) assessed to AS 1191-2002, rated to AS/NZS ISO 717.1
- Class 1 airflow performance to AS 4740
- Class C rain resistance to AS 4740
- Suitable where increased acoustic attenuation is required with high airflow performance

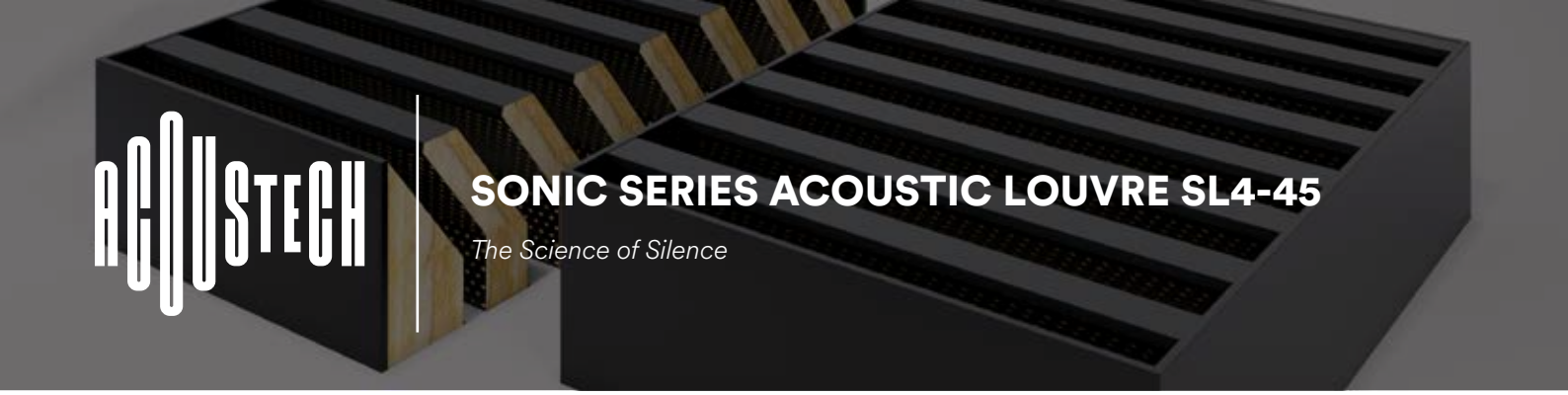
## APPLICATIONS

- Mechanical plant screens
- Generator and compressor enclosures
- HVAC intake and exhaust openings
- Industrial buildings
- Infrastructure facilities
- Commercial plant rooms

## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **System type** | Acoustic louvre – one-and-a-half stage configuration |
| **Model** | SL4-45 |
| **Construction** | **Nominal depth:** 450mm \| **Frame:** Steel \| **Blades:** Steel (front) / perforated steel (rear) \| **Infill:** Mineral wool |
| **Acoustic performance** | Rw 29 (C −1, Ctr −3) assessed to AS 1191-2002, rated to AS/NZS ISO 717.1 |
| **Airflow classification** | Class 1 to AS 4740 |
| **Free Open Area (FOA)** | 35% |
| **Coefficient of discharge (Cd)** | 0.80 |
| **Effective aerodynamic area (EFA)** | 0.28 |
| **Rain resistance** | Class C to AS 4740 \| **Average Effectiveness:** 0.860 |

The science of silence



# SONIC SERIES ACOUSTIC LOUVRE SL4-45

*The Science of Silence*

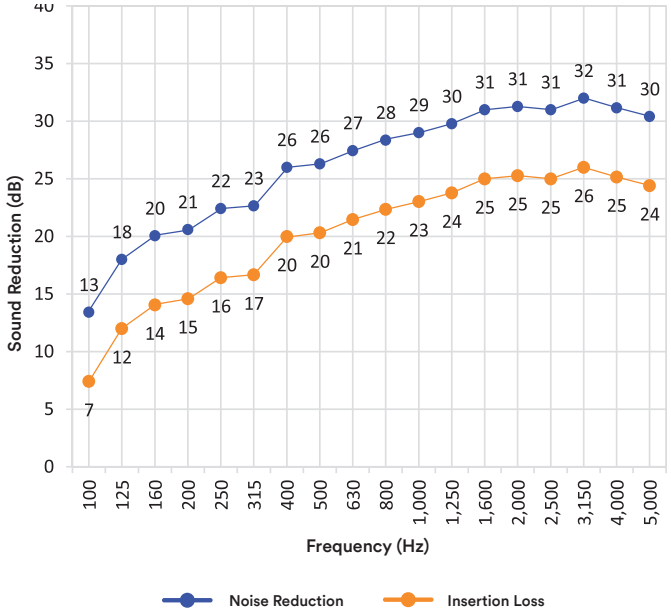
## AIRBORNE SOUND REDUCTION

The SL4-45 acoustic louvre provides controlled airborne sound reduction while maintaining airflow performance. Acoustic performance has been assessed and rated in accordance with AS/NZS ISO 717.1.

## HIGHLIGHTS

- Weighted Sound Reduction Index Rw 29 (C −1, Ctr −3)
- Insertion loss 23 dB (C −1, Ctr −3)
- Octave band performance data

### SL4-45 ACOUSTIC LOUVRE SOUND REDUCTION

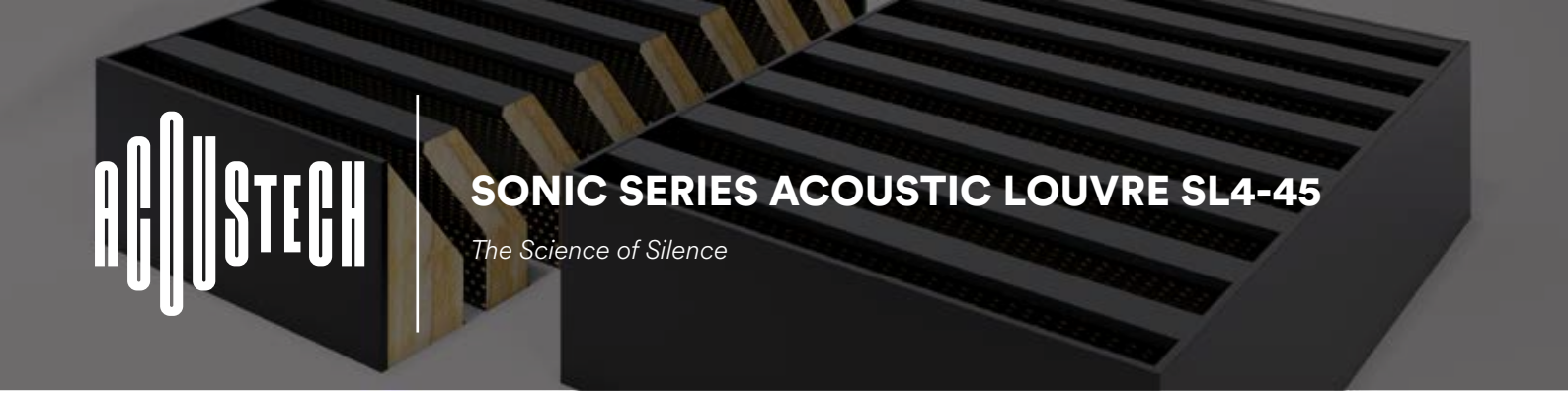



### RESULTS FOR SONIC SERIES ACOUSTIC LOUVRE SL4-45

| Frequency (Hz) - 1/3 Octave | Noise Reduction | |
|---|---|---|
| | 1/3 Octave | 1/1 Octave |
| 100 | 13 | 17 |
| 125 | 18 | |
| 160 | 20 | |
| 200 | 21 | 21 |
| 250 | 22 | |
| 315 | 23 | |
| 400 | 26 | 26 |
| 500 | 26 | |
| 630 | 27 | |
| 800 | 28 | 29 |
| 1000 | 29 | |
| 1250 | 30 | |
| 1600 | 30 | 31 |
| 2000 | 31 | |
| 2500 | 31 | |
| 3150 | 32 | 31 |
| 4000 | 31 | |
| 5000 | 30 | |

Full performance data available on request

The science of silence



# SONIC SERIES ACOUSTIC LOUVRE SL4-45

*The Science of Silence*

## AIRFLOW PERFORMANCE

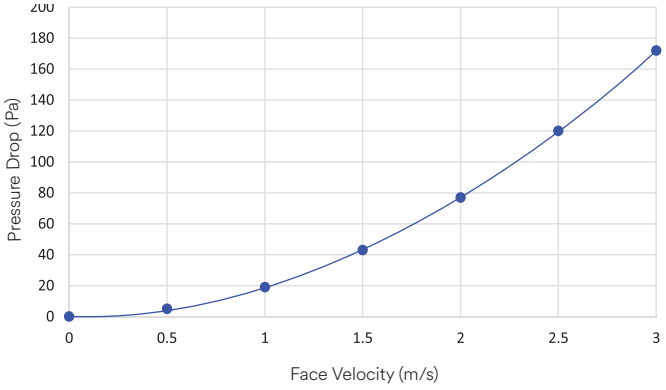
The SL4-45 acoustic louvre airflow performance has been assessed in accordance with AS 4740 to determine pressure drop and aerodynamic performance characteristics across a range of operating velocities.

## HIGHLIGHTS

- Low pressure drop characteristics support applications where airflow performance is a priority
- **Free Open Area (FOA):** 35%
- **Coefficient of Discharge (Cd):** 0.80
- **Effective Aerodynamic Area (EFA):** 0.28
- **Airflow Performance Classification:** Class 1 to AS 4740

## PRESSURE DROP DATA

**SL4-45 LOUVRE PRESSURE DROP**

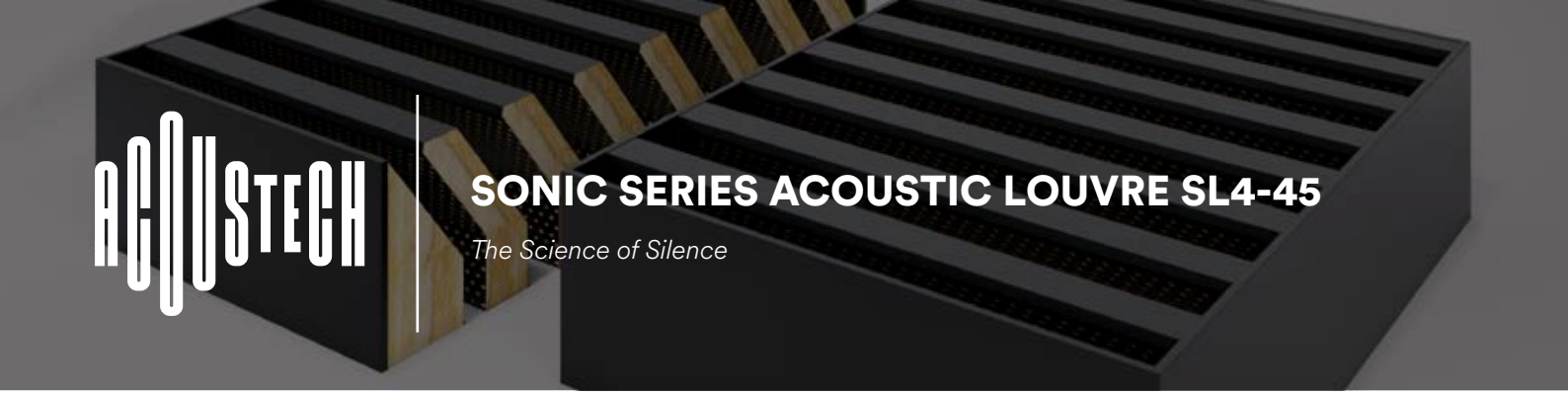



**SL4-45 LOUVRE AIRFLOW PERFORMANCE DATA**

| Face Velocity (m/s) | Throat Velocity (m/s) | Pressure Drop (Pa) | Ci (-) |
|---|---|---|---|
| 0.5 | 2.3 | 5 | 0.79 |
| 1 | 4.5 | 19 | 0.81 |
| 1.5 | 6.8 | 43 | 0.81 |
| 2 | 9.1 | 77 | 0.80 |
| 2.5 | 11.4 | 120 | 0.81 |
| 3 | 13.6 | 172 | 0.81 |

Full performance data available on request

The science of silence



# SONIC SERIES ACOUSTIC LOUVRE SL4-45

*The Science of Silence*

## WEATHER PERFORMANCE

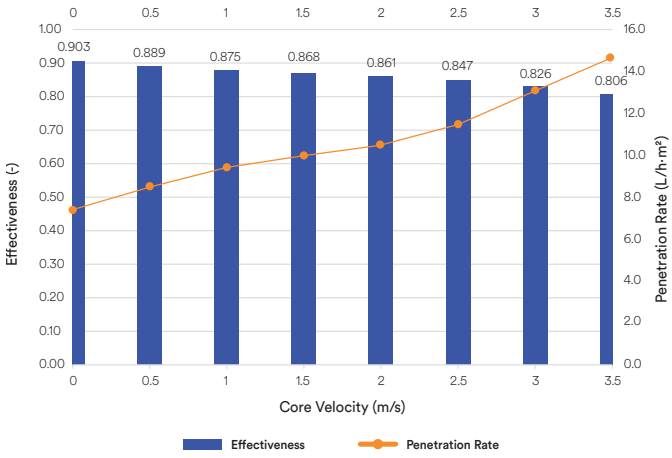
The SL4-45 acoustic louvre has been assessed for rain penetration resistance in accordance with AS 4740 Appendix B. The louvre provides weather protection suitable for general ventilation applications where acoustic performance and airflow are primary design considerations.

## HIGHLIGHTS

- **Average Effectiveness:** 0.860
- **Rain Resistance Classification:** Class C

## PERFORMANCE DATA

### SL4-45 LOUVRE RAIN PENETRATION PERFORMANCE

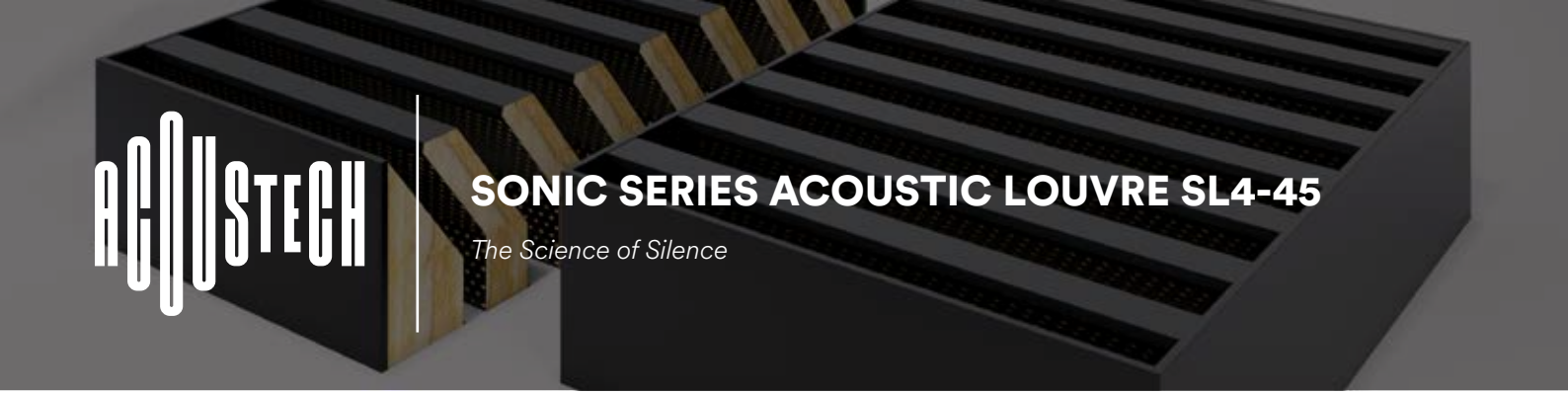



### SL4-45 LOUVRE RAIN RESISTANCE PERFORMANCE DATA

| Core Velocity (m/s) | Penetration Rate (L/h.m2) | Effectiveness | Rain Penetration Class |
|---|---|---|---|
| 0 | 7.3 | 0.903 | C |
| 0.5 | 8.3 | 0.889 | C |
| 1 | 9.4 | 0.875 | C |
| 1.5 | 9.9 | 0.868 | C |
| 2 | 10.4 | 0.861 | C |
| 2.5 | 11.5 | 0.847 | C |
| 3 | 13.0 | 0.826 | C |
| 3.5 | 14.6 | 0.806 | C |

Full performance data available on request

The science of silence



# SONIC SERIES ACOUSTIC LOUVRE SL4-45

*The Science of Silence*

## COMPLIANCE AND STANDARDS

- Acoustic performance rated in accordance with AS/NZS ISO 717.1
- Airflow performance classification to AS 4740
- Rain resistance classification to AS 4740
- Project-specific acoustic and aerodynamic configurations available
- Performance data derived from standards-based engineering assessment methodologies

## ORDERING AND SUPPORT

AcousTech louvres are available in standard module sizes or engineered to project-specific dimensions.

**Customisation options include:**

- Tailored width and height
- Project-specific colour finishes
- Integration with façade and plant screen systems

To discuss your project requirements, contact AcousTech

## HOW TO SPECIFY – SL4-45

| Category | Specification |
|---|---|
| System | Sonic Series acoustic louvre – SL4-45 |
| Construction | 450mm deep steel acoustic louvre with steel front blade, perforated steel rear liner and mineral wool infill |
| Finish | Galvanised steel or aluminium, powder-coated to nominated colour |
| Acoustic Performance | Rw 29 (C −1, Ctr −3) assessed to AS 1191-2002, rated to AS/NZS ISO 717.1 |
| Airflow Performance | FOA 35%, Cd 0.80, Class 1 to AS 4740 |
| Rain Resistance | Class C to AS 4740 |

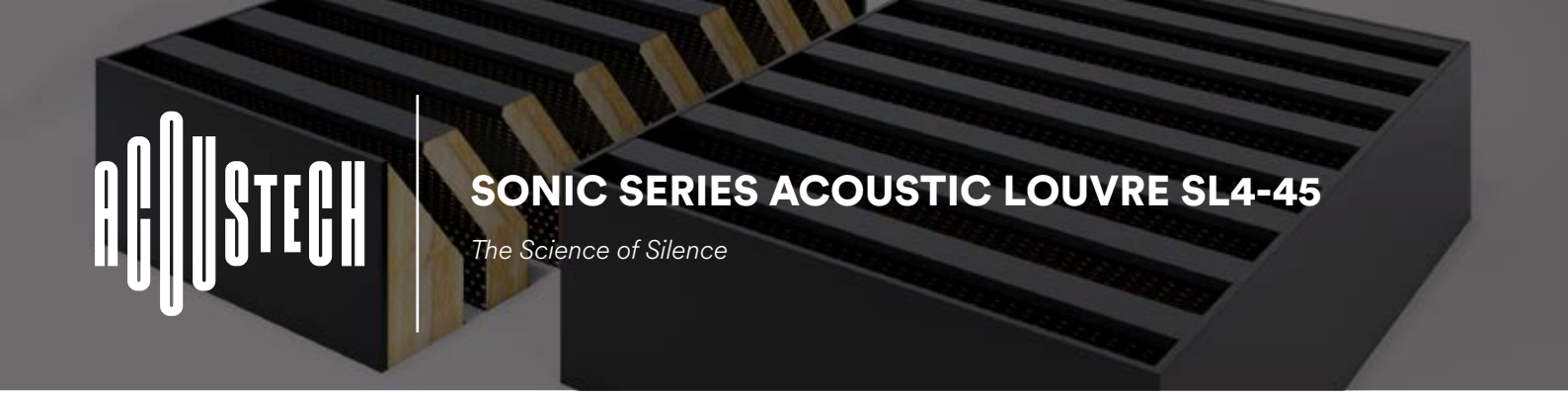
## SYSTEM SELECTION GUIDANCE

**The SL4-45 is typically used where:**

- Increased acoustic attenuation is required relative to 300mm depth configurations
- High airflow performance must be maintained alongside acoustic requirements
- System depth allows for a 450mm louvre configuration

For higher acoustic performance, deeper louvre configurations within the Sonic Series should be considered. Where high airflow is the priority, the Chevron blade configuration may be appropriate.

The science of silence



# SONIC SERIES ACOUSTIC LOUVRE SL4-45

*The Science of Silence*

## QUICK REFERENCE SPECIFICATIONS

| Category | Specification |
|---|---|
| System | Sonic Series acoustic louvre – SL4-45 |
| Configuration | One-and-a-half stage acoustic louvre |
| Nominal Depth | 450mm |
| Frame Construction | Steel |
| Blade Construction | Steel (front) / perforated steel (rear) |
| Acoustic Infill | Mineral wool |
| Weighted Sound Reduction Index | Rw 29 (C −1, Ctr −3) assessed to AS 1191-2002, rated to AS/NZS ISO 717.1 |
| Insertion Loss | 23 dB (C −1, Ctr −3) |
| Acoustic Assessment Standard | AS 1191-2002 |
| Rating Determination | AS/NZS ISO 717.1 |
| Free Open Area (FOA) | 35% |
| Coefficient of Discharge (Cd) | 0.80 |
| Effective Aerodynamic Area (EFA) | 0.28 |
| Airflow Classification | Class 1 to AS 4740 |
| Average Rain Effectiveness | 0.860 |
| Rain Resistance Classification | Class C to AS 4740 |
| Surface Finish | Galvanised steel or aluminium, powder-coated to nominated colour |
| Standard Sizes | Modular sizing available |
| Custom Options | Project-specific dimensions and finishes available |
| Installation | Suitable for mechanical intake and exhaust applications |
| Compliance | Acoustic, airflow and rain performance determined in accordance with relevant Australian Standards using standards-based engineering assessment methodologies |

AcousTech **(ABN 42 631 902 899 ACN 631 902 899)**

**Call us on**
1300 508 232

**Email**
enquiry@acoustech.com.au

**Visit**
www.acoustech.com.au

The science of silence