

Features:

- 63 Hz to 10 kHz
- Precision-Grade Testing
- Transmission Loss Testing
- Noise Emission Testing
- Sound Absorption Testing
- Full Automobile Test Access



An ETS-Lindgren Reverberation Test Chamber

ETS-LINDGREN'S REVERBERATION CHAMBERS

reflect sounds to produce a non-directional or diffuse sound field within the chamber. Unlike the sound pressure level produced by a device, the sound power level is a property of the device and is independent of the test environment.

Reverberation chambers are also used to measure the sound absorption characteristics of materials or other items such as soft panels, screens or pieces of furniture (e.g. theater seats, chairs, and sofas).

DESCRIPTION

ETS-Lindgren reverberation chambers provide a diffuse-field environment that enables sound absorption tests, sound power tests, and transmission loss studies to be performed.

FEATURES

Frequency Range

ETS-Lindgren offers a wide range of standard acoustic reverberation chambers to meet client needs. Standard chamber models have low-frequency cut off points of 63 Hz, 80 Hz, 100 Hz, 125 Hz, 160 Hz, and 200 Hz. Custom chamber designs are available to meet other performance specifications.

Precision Level Testing

ETS-Lindgren reverberation chambers are designed to comply with ISO 3741 uncertainty limits for both broadband and pure tone testing.

Transmission Loss Testing

A reverberation chamber suite with a transmission loss tunnel allows the testing of the isolation characterizations of virtually any building material according to ISO 140 and ASTM E90.

Noise Emission Testing

A single reverberation chamber allows for noise emission testing according to ISO 3741 for both broadband and pure tone sources.

Sound Absorption

ETS-Lindgren reverberation chamber's have reverberation times as long as 8 seconds, which provide measurement definition for low sound absorption specimens.

Full Automobile Test Access

Larger acoustic reverberation chambers can provide access for automotive testing. The automobile is enveloped by the reverberant field, making it possible to identify and correct for noise intrusions inside the vehicle cabin.

APPLICATIONS

Designed for applications that require a diffuse reverberant sound field needed to optimize product design or performance of:

Transmission Loss:

- Doors
- Windows
- Walls

Sound Power:

- Large and Small Devices (e.g. Washing Machines, Computers, Appliances)
- Compressors
- Pumps
- Transportation Related Noise (Automobiles and Their Components, Boat Motors, Aircraft Noise)

Sound Absorption:

- Ceiling Tiles
- Office Partitions
- Theater Seating
- Raw Materials (Insulation, Carpeting, Flooring, Fabric)

Noise Reduction:

- Small Rooms
- Small Enclosures
- Control Cabins

Applicable Test Standards:

- ISO 3743
- ISO 3741
- ASTM C423
- ASTM E90
- ASTM E596

STANDARD CONFIGURATION

- Modular Steel Isolated Floor or Concrete Isolated Floor (Depends on Chamber Size and Reverberation Time)
- Modular 4 Inch (10.16 cm) Steel Panels
- Ventilation Silencers for Fan of HVAC Connections (Wall or Ceiling Mounting Locations)
- Sealed Pendant Incandescent Lamps
- Test-in-Progress Light
- Acoustically Treated Cable Penetrations
- Engineered and Designed to Ambient Conditions at the Host Site
- Personnel Door
- Equipment Doors When Required

OPTIONAL EQUIPMENT

- Equipment Mounts (Wall or Ceiling)
- Automatic Door Operator
- Access Hatches
- Exhaust Fan for Gas Evacuation
- Transmission Loss Aperture
- Special Door Hardware

FIELD VERIFICATION

ETS-Lindgren can perform an on-site chamber performance verification tests which consist of reverberation field verification, noise reduction testing, and interior ambient level measurements.

ETS-Lindgren offers the following acoustical testing services and expertise for your application:

- Pre-sale site noise survey that determines to required noise reduction to meet your ambient goals. (The cost of the site survey can be applied towards the purchase price of the chamber)
- Identification and Risk Analysis of Airborne and Structure-borne Threats
- Measure and Evaluate Host Conditions
- Can Combine Measurement Hardware and Software with the Chamber for a Complete Turn-key Solution