Engineering Acoustic Performance at Scale

Data Center, Mumbai | Acoustic Enclosures for 3000 kVA DG Sets



Project Snapshot

Client / Site:
Data Center, Mumbai

Escon Scope:
Manufacture, supply, installation, testing and commissioning

Equipment:
22 acoustic enclosures for 22 × 3000 kVA DG sets

Configuration:
Special drop-down acoustic enclosure, as specified

Project Overview

Escon Gensets executed a large-scale acoustic enclosure project for Data Center in Mumbai, covering 22 high-capacity 3000 kVA diesel generator sets. The enclosures were designed and engineered to meet the specified acoustic requirement of 25 dB(A) at 1 meter from the enclosure, in line with the project's stated CPCB noise-emission requirements.

The installation was distributed across different floors of the data center, on independent steel platforms at the periphery of the data-ball building. This created significant challenges for material movement, access, assembly and sequencingg.The work required careful planning, precision-led assembly and close coordination across teams.

Scope & Technical Highlights

- 22 × acoustic enclosures for 3000 kVA DG sets
- Special drop-down acoustic enclosure configuration, manufactured as per customer-approved drawings
- Installation, testing and commissioning across multiple building levels
- Specified acoustic requirement: 25 dB(A) at 1 meter from the enclosure
- Warranty: 24 months from commissioning for supplied equipment, subject to purchase-order terms

The Execution Challenge

The defining challenge was not enclosure supply alone, but installation at scale in a space-constrained data-centre environment. Elevated floor locations, restricted access and the absence of cranes required an alternative execution approach without compromising safety, workmanship or the approved design.

Precision Execution in a Constrained Data-Center Environment

Escon approached the installation through systematic work planning, coordinated manpower deployment and a carefully sequenced assembly process. Enclosure components were handled and assembled in stages to suit the access limitations at each floor. Execution was aligned with customer-approved drawings, with attention to fit, assembly quality and the specified acoustic design requirements.
Gensets were erected in multilevel structure at six levels, with restricted headroom for erection & minimal floor space at the platform.



Execution Approach

- Phased planning and sequencing for installation across multiple floors.
- Coordinated manpower deployment to support controlled assembly in restricted work areas.
- Precision assembly in accordance with customer-approved drawings.
- Site-level coordination to manage access, material movement and work fronts.
- Focus on safety, quality and compliance throughout installation, testing and commissioning.

Safety, Quality & Compliance

The project was executed with a focus on stringent site safety and quality standards. The installation method was adapted to the building's access and handling constraints, while maintaining alignment with approved engineering documentation and the specified acoustic performance requirements.

Value Delivered

- Scale: 22 enclosures for 3000 kVA DG sets.
- Acoustic engineering: Design targeted the specified 25 dB(A) requirement at 1 meter.
- Complex installation: Work carried out across multiple floors with restricted access.
- Execution capability: Assembly completed using mechanical means due to space restrictions.



Conclusion

The Data center project demonstrates Escon's capability to deliver large-capacity DG acoustic enclosure solutions in complex, space-constrained infrastructure environments. By combining acoustic engineering, structured project planning and coordinated on-site execution, Escon completed a demanding multi-level installation while prioritising safety, quality and compliance.