Acoustic Enclosure

Generator Power Sets

Acoustic Control
by Mansfield Pollard

PROJECT HIGHLIGHTS

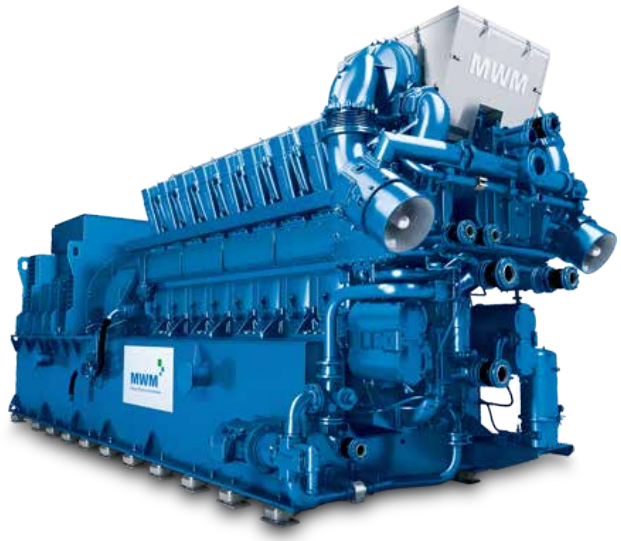
THE CHALLENGE

Mansfield Pollard's acoustic experts were engaged to design, manufacture, and install a specialist acoustic enclosure to reduce the noise level of a 4500 kWe TCG 2032B V16 gas engine generator located within a pre-existing, non-acoustic, industrial unit.

Located directly on the roadside in a mixed residential and commercial area, our engineers were tasked to reduce noise levels from 112 dB(a) to 75 dB(a) @1m from the enclosure ventilation inlet and outlet.

COASTAL PROTECTION

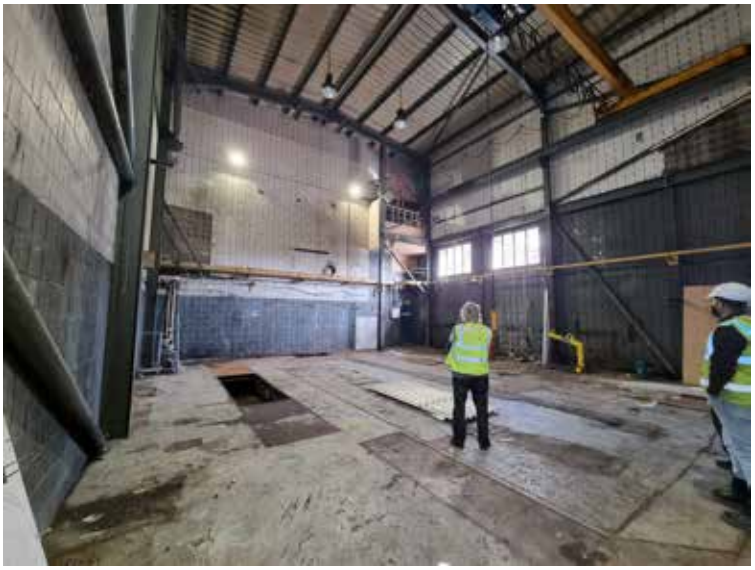
Due to the potential for adverse environmental conditional and the proximity of the units to the coats a number of additional elements were designed to further improve weather resistance including adding storm louvres to the penthouse outlet.



A PARTNERSHIP APPROACH

As recognised UK leaders in the successful delivery of similar projects, Mansfield Pollard were the standout choice of supplier and worked closely alongside the consultant engineers to design and manufacture a tailor made acoustic solution.

Due to the size and scale of the project, the partnership also worked closely with a team of specialist structural engineers, who designed the load bearing framework to ensure the build would support the outlet ventilation and exhaust systems and integrate three extensive lifting beams.



PROJECT HIGHLIGHTS

EFFECTIVE NOISE CONTROL

Reducing the noise levels from 112 dBa(a) to 75 dB(a)@1m

INTERNAL APPLICATION

Enclosure designed and built within the existing building envelope

COASTAL PROTECTION

Designed to endure adverse weather conditions

MAINTENANCE FRIENDLY

With integrated lifting beams, internal gantry and removable walls

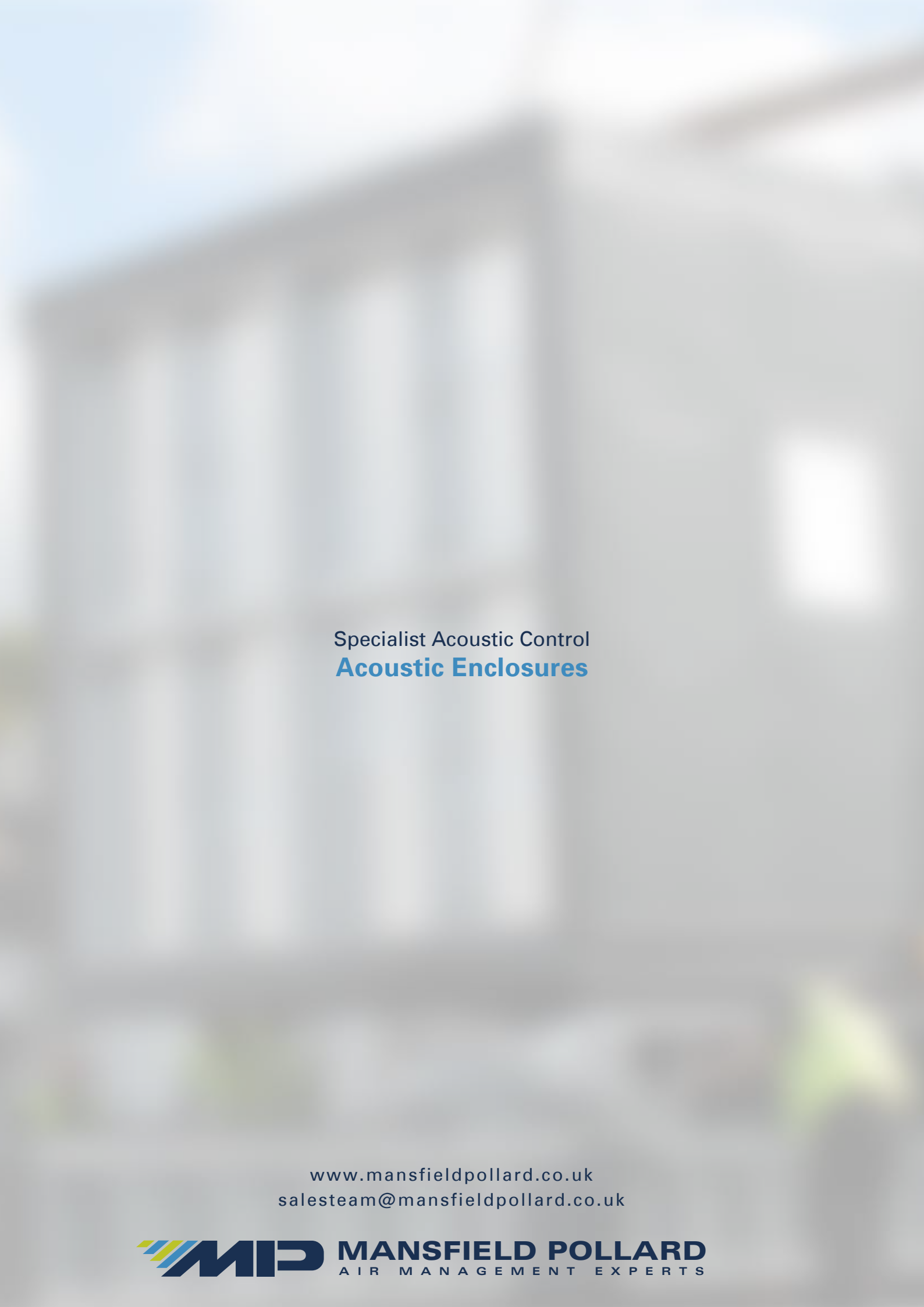
THE SOLUTION

As part of a mixed residential and commercial development, stringent noise control was required from the 13 x 7 x 6m enclosure.

A multi fanwall generated an airflow of over 28m³/s to cool and ventilate the generator with a roof mounted gas exhaust silencer contributing to a noise reduction level of 75dB(a) @1m from the enclosure ventilation inlet and outlet (from 130dB(a)).

The enclosure was designed with high level inlet and outlet attenuators, unique twin-seal slam doors and fully motorised dampers to manage airflow, whilst the forced vent system controlled the pressure within the enclosure.

To improve access for generator maintenance, an internal gantry was designed within the enclosure to provide an overhead observation area whilst three lifting beams, designed to support 500kg, and a removable 7m x 5m acoustic panel wall enabled any major component removal.



Specialist Acoustic Control

Acoustic Enclosures

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AIR MANAGEMENT EXPERTS