Acoustic Panel Systems PAC 40 & PAC 30

Usage

EMTEC PAC 40 and PAC 30 Acoustic Panels have been specifically designed to meet the increasing requirements to shield personnel from high noise levels emitted from plant and machinery. The EMTEC PAC 40 and PAC 30 Acoustic Panel Systems provide average attenuations across the audible frequency spectrum of 38dB and 33dB respectively and will attenuate most noise emissions to below the presently recommended safe working levels.

EMTEC PAC 40 Acoustic Panelled Screen.

EMTEC PAC 40 and PAC 30 Acoustic Panels have a plain exterior surface and a perforated inner surface with an acoustically absorbent media being contained between the two skins. The external surface of the panel is acoustically damped to eliminate local resonances and the inner perforated surface allows exposure of the acoustically absorbent media to the noise source in order to reduce reverberation within the area around the enclosed machinery.

EMTEC PAC 40 and PAC 30 Acoustic Panels can be used as barriers between quiet and noisy areas or in the form of housings around noisy plant. The panels are supplied complete with floor, roof and intermediate vertical joiners to allow fast and simple site erection. As part of an individual enclosure design, ventilation systems, complete with suitable silencers, can be provided in order to dissipate the heat emissions from the enclosed machinery. Access doors, inspection windows and acoustically sealed openings for the passage of piping, cables etc. can also be provided with no reduction in the acoustic performance of the final design.

Typical applications of EMTEC PAC 40 and PAC 30 Acoustic Panels are the enclosure of Turbo-compressors, Diesel-driven Generators, Pumps, Fans and Presses. Audiometric Rooms and Quiet Booths for personnel within noisy factory environments can also be constructed from EMTEC Acoustic Panels.

In order to discuss your particular requirements it is advisable to consult an EMTEC engineer who will be pleased to help in the formulation of a detailed design layout to meet your particular acoustic requirements.

Construction

EMTEC PAC 40 and PAC 30 Acoustic Panels are formed from a plain galvanised steel outer sheet and a perforated galvanised steel inner sheet. The panels are suitably stiffened to prevent deformation during site erection. The acoustic media contained in the panels is inert, non-flammable mineral wool with a tissue facing behind the perforated inner face to ensure that no particle migration can occur. The standard depth of EMTEC PAC 40 Acoustic Panels is 100mm and of EMTEC PAC 30 Acoustic Panels is 50mm.

EMTEC PAC 40 and PAC 30 Acoustic Panels can be supplied with external surfaces finished in aluminium, plastic coated steel or panels can be polyester powder coated to any standard BS4800 or RAL colour.

Doors, windows and sealed openings are normally fitted during site erection and all the necessary fittings and fixings are supplied with the panels. Double and single leaf doors are fitted with quick release internal safety catches so that personnel can escape from within the enclosure even when the access door is inadvertently locked shut. Window panels are provided with silica gel absorbent elements to eliminate condensation within the airspace formed by the two window panes. Cellular rubber seals are incorporated into floor and roof channels as well as around the periphery of doors and windows. Wall and roof joiners are mastic sealed during erection to maintain the acoustic integrity of the complete enclosure.

Structural steelwork or internal supports for ducting, silencers or other equipment can be incorporated into individual enclosure designs and details of all aspects of the acoustic enclosure would be shown on a full set of design drawings provided by EMTEC to the client for his approval prior to manufacture.

Typical Specification

The Diesel-driven Generator Set shall be enclosed in a self-contained EMTEC PAC 40 Acoustic Panel enclosure to maintain the noise levels laid down in the specification. The enclosure will be complete with two double-leaf access doors, sealed openings around the electrical cables and exhaust piping, an inspection window and an adequate ventilation system to dissipate the heat emission from the generator set. The enclosure shall be polyester powder coated to BS4800 colour 00A05 (grey).

EMTEC PAC 30 Acoustic Panelled Enclosure.

Acoustic Performance

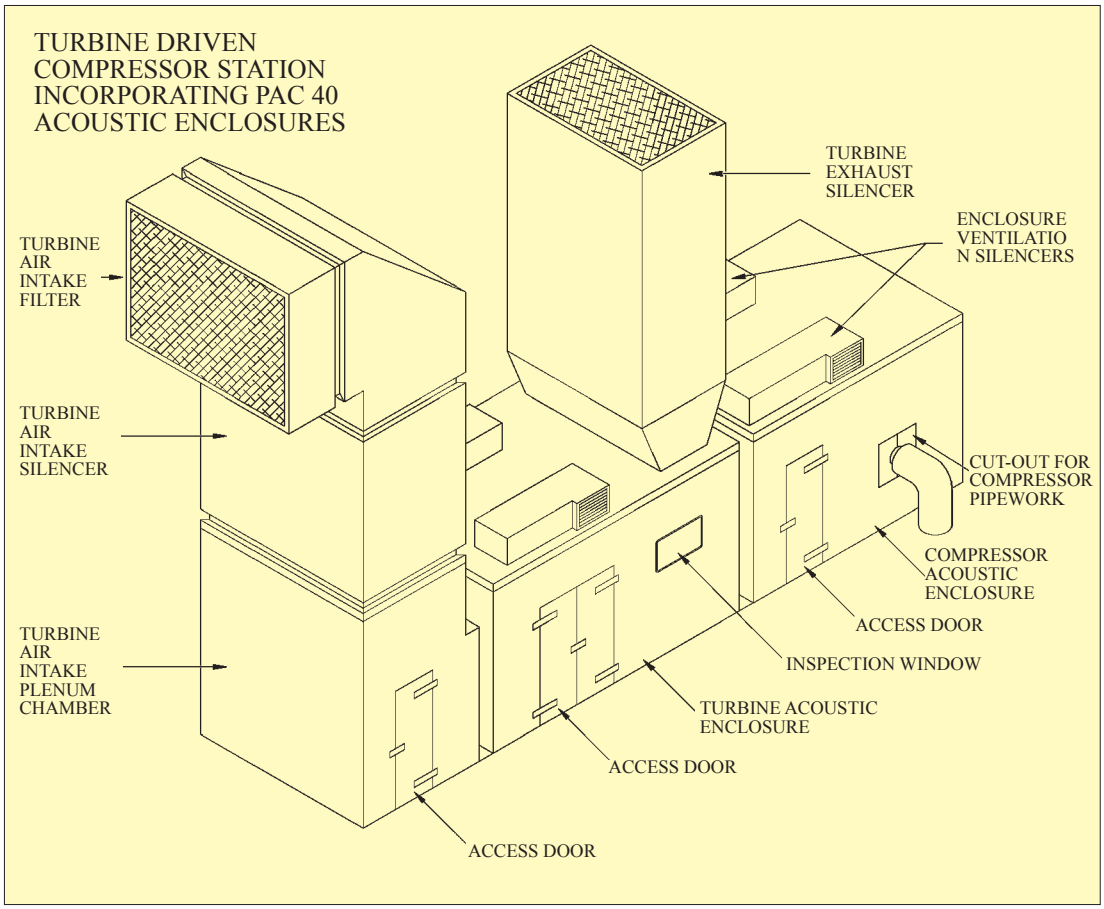
Acoustic Panel System	Sound Reduction Index in dB at Octave band centre frequencies (Hz)							
	63	125	250	500	1k	2k	4k	8k
PAC 40	21	22	31	37	44	46	51	49
PAC 30	18	20	28	32	40	41	44	38

Acoustic Panel System	Absorption coefficient of internal surface at Octave band centre frequencies (Hz)							
	63	125	250	500	1k	2k	4k	8k
PAC 40	0.4	0.6	0.9	0.95	0.95	0.95	0.85	0.8
PAC 30	0.2	0.4	0.8	0.9	0.95	0.9	0.8	0.7

Physical Properties

A comprehensive erection service is available to install EMTEC PAC 40 and PAC 30 Acoustic Panel systems or alternatively site management can be provided to oversee erection by the customer's personnel. Complete enclosure systems that include silencers, ventilations systems, filtration, fire protection and detection systems, lighting and structural supports can be designed, manufactured and installed by EMTEC Products Ltd.

The sketch below shows an example of such a system installed around a turbo compressor. It is advisable to contact EMTEC Products Ltd. at an early stage as we will be pleased to assist you in the detailed design of an enclosure system to meet your particular acoustic criteria.



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