

CUSTOM GENERATOR



ENCLOSURES

*Designed & Manufactured
To Meet Your Specifications*



Commercial Acoustics
A DIVISION OF METAL FORM MFG., CO.

MODULAR ACOUSTICAL PLENUMS

NOISE CONTROL SYSTEMS for POWER GENERATORS



Photos: Top-350 Kw Generator with skid mounted acoustical enclosure showing the inlet louver and outlet scoop.

Top Right-Enclosure with control panel door open.

Right- Enclosure with doors open showing access to engine components such as fuel filter, air filter, batteries, starter, radiator and drain plugs.



SPECIFICATIONS GENERAL

Furnish and install Generator Acoustical Enclosure(s) constructed of double wall, modular Factory Fabricated Acoustical Panels as shown on plans and as specified. Acoustical panels and components shall be designed to reduce the existing noise of diesel or gas powered generator sets and shall be the product of Commercial Acoustics Division of Metal Form Manufacturing.

MATERIALS AND CONSTRUCTION

Panels shall be 4 1/4" or 2 1/4" thick with interior perforated panel sheets of 22 GA galvanized steel with 3/32" diameter holes spaced on 3/16" staggered centers. Exterior solid panel sheets shall be 18 GA minimum, G90 galvanized steel. Internal panel reinforcement shall be roll formed 16 GA galvanized steel and spaced so that span does not exceed 2'-0". Perimeter and internal reinforcement and panel sheets shall be welded and/or riveted to form a rugged metal-sheathed acoustical panel. Prior to attaching the face sheet, the panel shall be filled with sound retarding and absorbing fill which shall be incombustible, inert, mildew resistant and vermin-proof. The face sheet shall be welded and/or riveted to the panel assembly so as to compress and hold the fill materials in place under severe conditions of vibration such as encountered in shipment, installation and operation. All spot welds shall not exceed three inch on center

DOORS

Door panels shall be of similar construction to standard panels. Doors shall be supplied 24" wide x 60" high or as specified on the drawings. Doors shall be 4 1/4" or 2 1/4" thick with double overlapping air/acoustic seals around the sill, jambs, and head. Door frames shall be 6063-T5 extruded aluminum, 0.156 inch thick with gasket recess. Frames shall be milled with continuously welded seams to prevent leakage. Face sheets shall be 18 GA minimum, G90 galvanized steel. Each door shall have two heavy-duty ball bearing type hinges designed for door size and weight. Latches shall be cylinder-locking type with inside panic release handle. Each door shall be fully insulated and gasketed.

WINDOWS

Windows shall be furnished for doors where shown on the drawings and shall consist of two layers of 1/4" wire reinforced glass separated by an air space and sealed acoustically and air tight with rubber seals. Glass shall have 4" radius corners. Air space shall contain a desiccant to prevent misting.

ACCESSORIES

All panel accessories and trim shall be made of 16 GA G90 galvanized steel furnished in standard lengths to be field cut as required. Pipe and conduit penetrations shall be located and cut in the field and sealed in accordance with the Manufacturer's instructions. Fasteners shall be zinc plated, #12 x 1", self-drilling, self-tapping hex head sheet metal screws located 12 inch on center. Optional electrical systems, ventilation systems and components shall be furnished as shown on the drawings.

STRUCTURAL PERFORMANCE

The complete plenum structure shall be normally self-supporting and airtight under the specified conditions including wind, snow, rain and equipment. Where roof spans, roof loadings and wall loadings require additional structural strength, it shall be furnished either by additional panel reinforcement or additional structural members and/or pipe columns. The assembled acoustical structure shall be designed to assure that the enclosure will be airtight and not deflect more than 1/240th of the longest span.

FIRE HAZARD RATING

Enclosure design shall meet the following UL Fire Hazard Ratings as per ASTM specification E-84, or the latest version thereof. Flame Spread - 15 Fuel Contributed - 0 Smoke Developed - 0

INSTALLATION

Enclosure manufacturer shall furnish complete erection drawings and installation instructions, including a bill of materials. Each panel shall be marked to match the drawings and the bill of material.

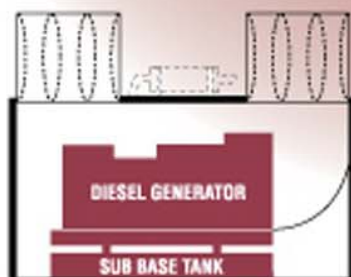
ACOUSTICAL PERFORMANCE

TRANSMISSION LOSS IN DECIBELS

Octave Band	2	3	4	5	6	7	
Center Frequency, Hz	125	250	500	1k	2k	4k	STC
Transmission Loss (TL)	4 1/4"	22	29	40	48	54	60
ASTM E90 & E413	2 1/4"	21	24	35	43	52	57

SOUND ABSORPTION CHARACTERISTICS

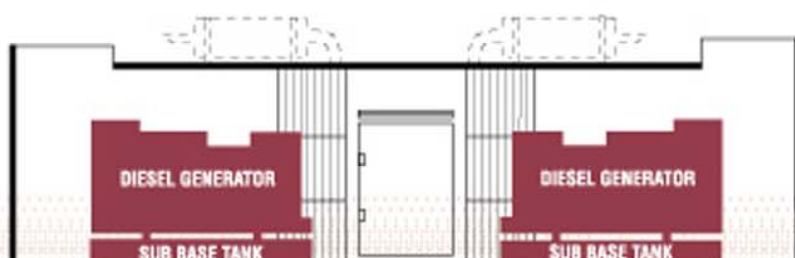
Octave Band	2	3	4	5	6	7	
Center Frequency, Hz	125	250	500	1k	2k	4k	NRC
Absorption Coefficients	4 1/4"	0.86	1.09	1.22	1.06	1.05	1.04
ASTM C423 & E795	2 1/4"	0.31	0.82	1.19	1.12	1.07	1.06



DIESEL GENERATOR ENCLOSURE WITH VERTICAL AIR FLOW.



DIESEL GENERATOR ENCLOSURE WITH HORIZONTAL AIR FLOW.

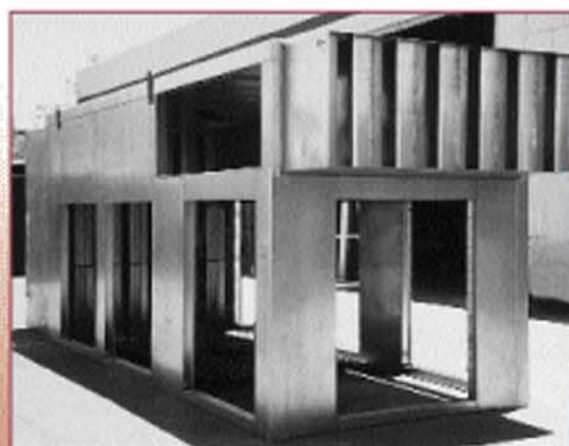


DOUBLE DIESEL GENERATOR ENCLOSURE UNIT.

SCHEMATIC DIAGRAMS relating to the the different fabricated enclosures available with various configurations per specifications.

Modular Construction with Prime Flexibility

Commercial Acoustics modular construction allows for the greatest flexibility in the design of drop-over, skid-mount or field fabricated Generator Acoustical Enclosures. Acoustical Louver, Sound Attenuator, Muffler and Acoustical Door locations are easily customized to meet customer requirements.



Enclosure for 750 Kw generator, partial assembly.



Enclosure for 750 Kw generator, ready for shipment.



Drop-over enclosure for 500 Kw generator.

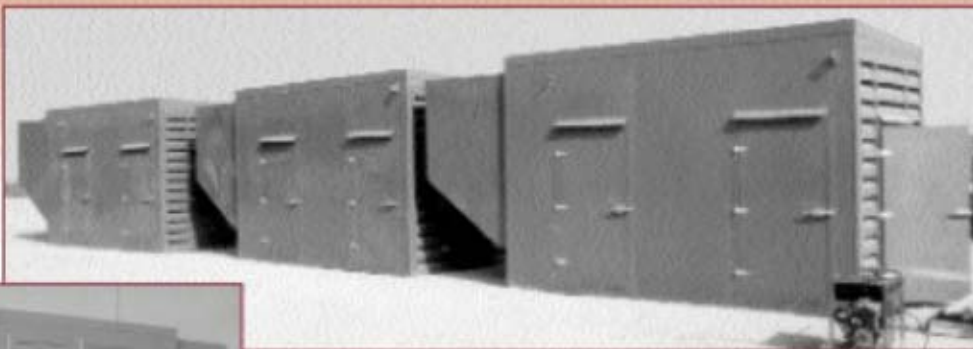


Skid-mounted enclosure for 350 Kw generator.

WE GENERATE THE RIGHT ENCLOSURE ANSWERS!

Stock drop-over enclosures for 500 Kw generators are assembled and awaiting shipment.

Skid mounted 350 Kw acoustically enclosed generator awaiting shipment.



ACOUSTICAL CUSTOM GENERATOR ENCLOSURES TO MEET YOUR NEEDS...

Commercial Acoustics has the capabilities and experience to design Acoustical Enclosures to meet your specific project requirements. Along with our list of standard features we have provided our clients with Optional features including Stainless Steel and Aluminum construction, High Transmission Loss Panels, Powered Ventilation Systems, Exhaust Mufflers, Vibration Isolation, Electrical Packages, Thermal Setting Powder Coat Painted Finish along with Acoustical, Aerodynamic and Structural Calculations for specification compliance. The next time your requirements call for an Acoustical Enclosure, contact Commercial Acoustics and let us put our experience to work for you.

ACOUSTICAL ENCLOSURE PARTIAL CLIENT LIST Power Generation Market Sector

Orange County - North Justice Center
Time Warner Corp.
Sprint PCS - Anaheim
Sprint PCS - Santa Ana
Sprint PCS - Orlando
TOSCO Refinery
American Automotive Association
ABC News - Los Angeles
Florida Power & Light
University of California - Los Angeles
Hughes Aerospace
Vitesse Electronics
KRLA
Academy of Motion Pictures
CCL Plastics

Sunrider
Pacific Life
City of Monterey Park, CA
City of Santa Ana, CA
University of Southern California
Trader Joe's
Pacific Internet Exchange
Soka University
20th Century Studios
Digital Insite
Anaheim Convention Center
Braden Manufacturing
Thermo-Kinetics
City of Dover, DE

COMMERCIAL ACOUSTICS

...has over 30 years proven performance in manufacturing products and systems for HVAC, security, and sound reduction applications. Products are distributed worldwide from our 84,000 square foot fully automated plant in Phoenix, Arizona.

As an industry leader, our reputation to commitment, innovations and quality design at affordable prices is unsurpassed. Our company is dedicated to efficiency and customer satisfaction. We demand and achieve excellence.

We have more than 75 representative organizations located in major cities throughout the United States, Canada, Mexico and the Pacific Rim.



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