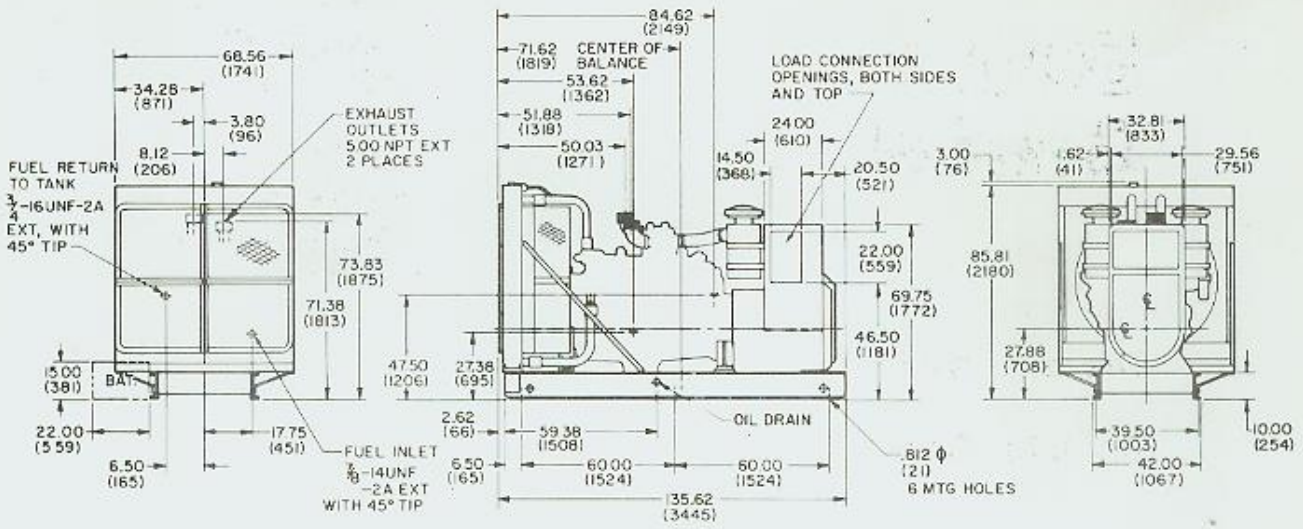

DIMENSIONS IN ( ) ARE IN MILLIMETRES

Approx net wt: 11,675-lb (5296 kg). *CAUTION:* For construction details, all models, obtain installation outline from the factory.

DIESEL ENGINE

Design: Four-cycle; V-12 cylinder, replaceable wet liners; 5.5-in (139.7 mm) bore; 6.0-in (152.4 mm) stroke; compression ratio 13.7 to 1; piston displacement 1710-in³ (28021.8 cm³); piston speed 1800-fpm (9144 mm/s), 760-bhp (566.7 kW) minimum at 1800-rpm. Turbocharged and intercooled Cummins VTA-1710-G.

Battery Charging: Belt driven, 24-volt, 35-amp, DC alternator with transistorized voltage regulator. Negative ground.

Cooling System: Radiator cooled. Coolant system capacity 44.0-gal (167 L), self sealing prelubricated coolant pump, capacity 225-gpm (852 L/min); belt driven pusher fan, cooling air volume 29,000-cfm (821 m³/min); heat rejection to coolant 20,800 Btu/min (21.9 MJ/min). Thermostat temperature control. High coolant temperature shutdown. Corrosion resister coolant filters.

Fuel System: Cummins PT injection system. Dry element air cleaners; fuel transfer pump; fuel filters; fuel lift 5-ft (1.52 m). Automatic fuel shutoff. Combustion air required, 1700-cfm (48.1 m³/min).

Fuel: Number 2 diesel fuel recommended. Average fuel consumption at full load 36.8-gph (139L/h); 3/4 load 34.7-gph (131 L/h); 1/2 load 19.6-gph (74.2 L/h); 1/4 load 13.0-gph (49.2 L/h).

Governor: Barber Colman electronic governor with electric actuator. Speed droop externally adjustable from isochronous to 5 percent.

Lubrication System: Positive displacement, gear design, lube oil pump, fuel pressure lubrication to all bearings; full-flow oil filters; oil level indicator; oil pressure gauge; low oil pressure shutdown. Oil capacity 27-gal (102 L) includes filters and lube oil cooler.

Starting System: Remote 24-volt, 2-wire, negative ground, starting system. Positive shift, gear engaging starter. Cranking limiter. For standby service, use 24-volt, 2-wire, automatic transfer switch.

Valves: Dual overhead intake and exhaust valves. Heat and corrosion resistant alloy steel valve facing and valve seat inserts.

ONAN BRUSHLESS ALTERNATOR

Design: Revolving field, 4-pole, brushless alternator designed for minimum reactance, low voltage waveform distortion and maximum efficiency. Rotor amortisseur windings improve the AC waveform, reduce field heating with single-phase or unbalanced loads and act as a stabilizer for paralleling. Dynamically balanced rotor permanently aligned to engine by flexible disc coupling. The stator includes a twelve lead, bus bar load connection system.

Exciter: Exciter is 3-phase, fullwave rectified, with silicon diodes mounted on common rotor shaft, sized for maximum motor starting.

Voltage Regulator: Solid state voltage regulator. Silicon controlled rectifiers with phase controlled sensing circuit. The system features automatic voltage reduction if the load demand exceeds the engine capacity. This eliminates engine stalling due to an occasional engine misfire or temporary overload (e.g. motor starting). It also prevents overheating or blowing of fuses in the load circuits due to saturation of magnetic components when the voltage remains constant at reduced frequency. The voltage reference is a temperature compensated zener diode.

Voltage Waveform: Voltage waveform deviation factor is less than 0.04 line to line and less than 0.06 line to neutral per NEMA MG1-22.42. Total harmonic content of the AC waveform is less than 5 percent, telephone influence factor (TIF) is less than 50 per NEMA MG1-22.43.

Bearing: Double sealed, prelubricated ball bearing.

Cooling: Direct drive centrifugal blower designed for minimum noise. Alternator cooling air 3000-cfm (84.9 m³/min).

Temperature Rise: Temperature rise at rated load and power factor is within limits for Class F insulation as defined by NEMA MG1-22.40.

Insulation System: Class F as defined by NEMA MG1-1.65. Rotor vacuum impregnated with 100 percent solid epoxy resin for improved cooling and complete environmental protection. Stator and remaining insulation system impregnated twice with varnish conforming to MIL-I-24092. Type M, Class 155.

UNIT PERFORMANCE

Frequency Regulation: Isochronous, no load to rated load.

Voltage Regulation: Plus or minus 1 percent, no load to full load with isochronous governing. Rheostat provides plus or minus 5 percent voltage adjustment.

Steady State Operation: The frequency variation will not exceed ±0.25 percent (±0.15 hertz) and voltage variation ± 1 percent of their mean value for constant loads from no load to full load.

Electromagnetic Interference Level: Attenuation exceeds requirements for most standard AM Radio, Television and Marine Radio-Telephone equipment.