# Cat® C7.1 DIESEL GENERATOR SETS

**Standby & Prime: 50 Hz & 60 Hz**



*Image shown might not reflect actual configuration*

| | |
|---|---|
| Engine Model | Cat® C7.1 Inline 4-stroke Diesel |
| Bore x Stroke | 105.0mm x 135.0mm (4.1in x 5.3 in) |
| Displacement | 7.0 L (427.8 in³) |
| Compression Ratio | 16.0:1 |
| Aspiration | Turbocharged Air To Air Charge Cooled |
| Fuel Injection System | Inline |
| Governor | Mechanical |

| Model | Standby | | Prime | | Emission Strategy |
|---|---|---|---|---|---|
| | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| DE165E0 | 165.0 kVA (132.0 kW) | 187.5 kVA (150.0 kW) | 150.0 kVA (120.0 kW) | 168.8 kVA (135.0 kW) | Low BSFC |

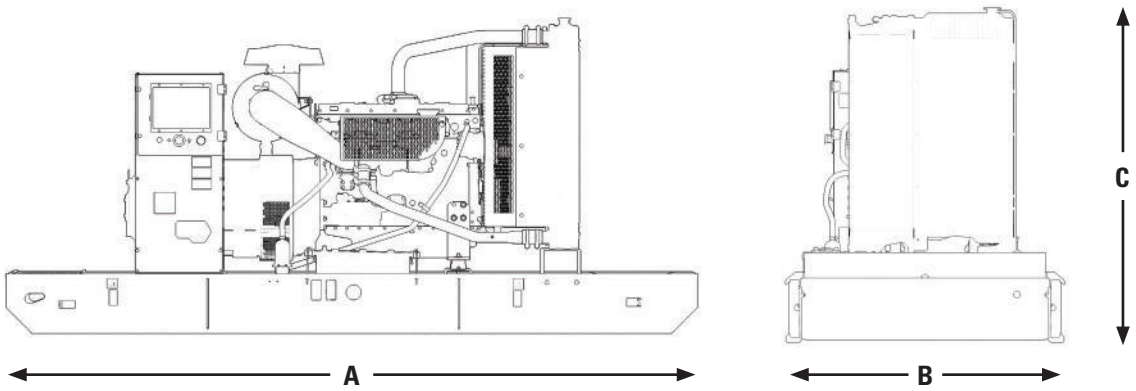
## PACKAGE PERFORMANCE

| Performance | Standby | | Prime | |
|---|---|---|---|---|
| | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| Frequency | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| Genset Power Rating | 165.0 kVA | 187.5 kVA | 150.0 kVA | 168.8 kVA |
| Genset power rating with fan @ 0.8 power factor | 132.0 kW | 150.0 kW | 120.0 kW | 135.0 kW |
| Emissions | Low BSFC | | | |
| Performance Number | P4200A | P4202A | P4200A | P4202A |
| **Fuel Consumption** | | | | |
| Fuel Tank Capacity, litres (US gal) | 349 (92.2) | | | |
| 100% load with fan, L/hr (gal/hr) | 35.1 (9.3) | 41.6 (11.0) | 32.4 (8.6) | 37.9 (10.0) |
| 75% load with fan, L/hr (gal/hr) | 27.3 (7.2) | 32.1 (8.5) | 25.0 (6.6) | 29.2 (7.7) |
| 50% load with fan, L/hr (gal/hr) | 18.4 (4.9) | 22.0 (5.8) | 16.7 (4.4) | 19.9 (5.3) |
| **Cooling System[1]** | | | | |
| Radiator air flow restriction (system), kPa (in. Water) | 3.0 (12.0) | | | |
| Radiator air flow, m³/min (cfm) | 303.4 (10714) | 239.4 (8454) | 303.4 (10714) | 239.4 (8454) |
| Total coolant capacity, L (gal) | 21.0 (5.5) | | | |
| **Inlet Air** | | | | |
| Combustion air inlet flow rate, m³/min (cfm) | 10.7 (377) | 15.0 (529) | 10.0 (354) | 14.4 (509) |
| Max. Allowable Combustion Air Inlet Temp, °C (°F) | 50 (122) | | | |
| **Exhaust System** | | | | |
| Exhaust stack gas temperature, °C (°F) | 484 (903) | 407 (765) | 484 (903) | 407 (765) |
| Exhaust gas flow rate, m³/min (cfm) | 25.5 (902) | 32.2 (1137) | 23.9 (843) | 31.9 (1125) |
| Exhaust system backpressure (maximum allowable), kPa (in. water) | 6.0 (1.8) | | | |
| **Heat Rejection** | | | | |
| Heat rejection to jacket water, kW (Btu/min) | 75.7 (4305) | 80.1 (4555) | 69.1 (3930) | 73.5 (4180) |
| Heat rejection to alternator, kW (Btu/min) | 10.1 (574) | 12.7 (722) | 10.1 (574) | 12.7 (722) |
| Heat rejection to atmosphere from engine, kW (Btu/min) | 22.3 (1268) | 25.0 (1422) | 20.0 (1137) | 22.6 (1285) |

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| Alternator[3] | 50 Hz | | | | 60 Hz | | | |
|---|---|---|---|---|---|---|---|---|
| Voltages | 415V | 400V | 380V | 220V | 480V | 380V | 240V | 440V |
| Motor starting capability @ 30% Voltage Dip, skVA | 232 | 218 | 194 | 261 | 211 | 161 | 187 | 195 |
| Current, amps | 230 | 238 | 251 | 433 | 226 | 281 | 451 | 246 |
| Temperature Rise, °C | 125/40 | 125/40 | 125/40 | 125/40 | 125/40 | 163/27 | 163/27 | 163/27 |
| Frame Size | R2453L4 | | | | | | | |
| Excitation | S.E | | | | | | | |

## WEIGHTS & DIMENSIONS




**Note:** General configuration not to be used for installation. See general dimension drawings for detail.

| Dim "A" mm (in) | Dim "B" mm (in) | Dim "C" mm (in) | Dry Weight kg (lb) |
|---|---|---|---|
| **2500 (98.4)** | **1120 (44.1)** | **1528 (60.2)** | **1707 (3763)** |

## APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.
Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

**STANDBY:** Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

**PRIME:** Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

## DEFINITIONS AND CONDITIONS

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

[3] UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

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LEHE1149-01 (06/20)