

**Standby & Prime: 50Hz, 400/230V; 3-Ph**



*Image shown might not reflect actual configuration*

|                       |                                     |
|-----------------------|-------------------------------------|
| Engine Model          | Cat® C7.1 In-line 6, 4-cycle diesel |
| Bore x Stroke         | 105 mm x 135 mm (4.1 in x 5.3 in)   |
| Displacement          | 7.0 L (427.8 in³)                   |
| Compression Ratio     | 16.8:1                              |
| Aspiration            | Turbocharged Water cooled           |
| Fuel Injection System | Mechanical                          |
| Governor              | EU stage IIIA emissions compliant   |

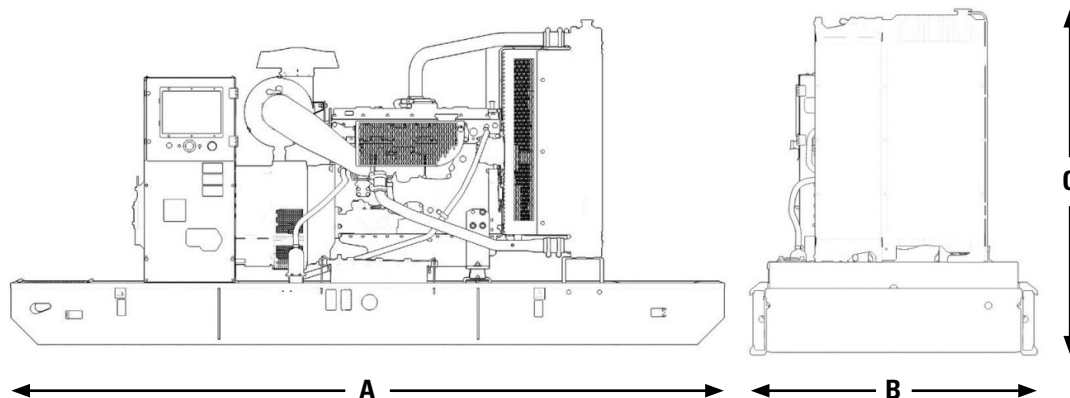
| Model   | Voltage/Frequency | Standby          | Prime            |
|---------|-------------------|------------------|------------------|
| DE165E3 | 400/230 V, 50 Hz  | 165 kVA, 132 ekW | 150 kVA, 120 ekW |

## PACKAGE PERFORMANCE

| Performance                                           | 50 Hz                      |                |
|-------------------------------------------------------|----------------------------|----------------|
|                                                       | Standby                    | Prime          |
| Engine Speed: RPM                                     | 1500                       |                |
| Gross Engine Power: kW (hp)                           | 149.7 (201.0)              | 135.9 (182.0)  |
| BMEP: kPa (psi)                                       | 1708.0 (247.7)             | 1550.0 (224.8) |
| Regenerative Power: kW                                | 11.5                       |                |
| Fuel System <sup>1</sup> : L/hr (US gal/hr)           |                            |                |
| 110% Load                                             | -                          | 36.6 (9.7)     |
| 100% load                                             | 36.6 (9.7)                 | 34.1 (9.0)     |
| 75% load                                              | 29.4 (7.8)                 | 27.3 (7.2)     |
| 50% load                                              | 21.0 (5.5)                 | 19.4 (5.1)     |
| Fuel Filter Type                                      | Replaceable Element        |                |
| Recommended Fuel                                      | Class A2 Diesel or BSEN590 |                |
| Air System                                            |                            |                |
| Combustion Air Flow: m³/min (cfm)                     | 111.0 (388)                | 10.6 (374)     |
| Air Filter Type                                       | Paper Element              |                |
| Max. Combustion Air intake restriction: kPa (in H2O)  | 8.0 (32.1)                 |                |
| Radiator Cooling Air flow: m³/min (cfm)               | 276.0 (9747)               |                |
| External Restriction to Cooling Air Flow: Pa (in H2O) | 125 (0.5)                  |                |
| Cooling System <sup>2</sup>                           |                            |                |
| Heat Rejected to Water & Lube Oil: kW (Btu/min)       | 72.5 (4123)                | 64.0 (3640)    |
| Heat Radiated from Engine & Alternator: kW (Btu/min)  | 35.5 (2019)                | 33.0 (1877)    |
| Cooling System Capacity: l (US gal)                   | 21.0 (5.5)                 |                |
| Radiator Fan Load: kW (hp)                            | 4.5 (6.0)                  |                |
| Water Pump Type                                       | Centrifugal                |                |

| Exhaust System                                    |          | 50 Hz                              |          |                                                         |
|---------------------------------------------------|----------|------------------------------------|----------|---------------------------------------------------------|
|                                                   |          | Standby                            |          | Prime                                                   |
| Exhaust Gas Flow: m³/min (cfm)                    |          | 25.0 (883)                         |          | 24.0 (848)                                              |
| Exhaust Gas Temperature: °C (°F)                  |          | 513 (955)                          |          | 513 (955)                                               |
| Silencer Type                                     |          | Industrial                         |          |                                                         |
| Silencer Model & Quantity                         |          | EXSY1 (1)                          |          |                                                         |
| Pressure Drop Across Silencer System: kPa (in Hg) |          | 0.15 (0.044)                       |          |                                                         |
| Silencer Noise Reduction Level: dB                |          | 10                                 |          |                                                         |
| Max. Allowable Back Pressure: kPa (in. Hg)        |          | 15.0 (4.4)                         |          |                                                         |
| Generator Performance Data³                       |          |                                    |          |                                                         |
| Voltage                                           |          | 415/240V                           | 400/230V | 380/220V                                                |
| Motor Starting Capability* kVA                    |          | 224                                | 208      | 188                                                     |
| Short Circuit Capacity** %                        |          | 300                                | 300      | 300                                                     |
| Reactances: Per Unit                              |          |                                    |          |                                                         |
| Xd                                                |          | 2.750                              | 2.960    | 3.280                                                   |
| X'd                                               |          | 0.240                              | 0.260    | 0.290                                                   |
| X''d                                              |          | 0.101                              | 0.109    | 0.121                                                   |
| Generator Technical Data                          |          |                                    |          |                                                         |
| Physical Data                                     |          |                                    |          |                                                         |
|                                                   |          | Operating Data                     |          |                                                         |
| Frame Model                                       | R2273L4  | Overspeed: RPM                     |          | 2250                                                    |
| No. of Bearings                                   | 1        | Voltage Regulation: (steady state) |          | +/- 0.5%                                                |
| Wires                                             | 12       | Wave Form NEMA = TIF:              |          | 50                                                      |
| IP Rating & Insulation Class                      | IP23 & H | Wave Form IEC = THF:               |          | 2.0%                                                    |
| Winding Pitch-Code                                | 2/3 - M0 | Total Harmonic Content LL/LN:      |          | 2.0%                                                    |
| Excitation                                        | SHUNT    | Radio Interference:                |          | Suppression is in line with European Standard EN61000-6 |
| AVR Model                                         | Mark V   | Radiant Heat: kW (Btu/min)         |          | 50 Hz: 10.1 (574)                                       |
| Capacities                                        |          |                                    |          |                                                         |
| 50 Hz                                             |          |                                    |          |                                                         |
| Voltage                                           | Prime    |                                    | Standby  |                                                         |
|                                                   | kVA      | kVA                                | kVA      | kVA                                                     |
| 415/240V                                          | 149.9    | 119.9                              | 165.0    | 132.0                                                   |
| 400/230V                                          | 150.0    | 120.0                              | 165.0    | 132.0                                                   |
| 380/220V                                          | 149.5    | 119.6                              | 165.0    | 132.0                                                   |

| Weight: kg (lb)  |                            |                          | Dimensions: mm (in) |             |             |
|------------------|----------------------------|--------------------------|---------------------|-------------|-------------|
| Net (+ lube oil) | Wet (+ lube oil & coolant) | Fuel, lube oil & coolant | Length, A           | Length, B   | Length, C   |
| 1590 (3505)      | 1611 (3552)                | 1907 (4203)              | 2450 (96.5)         | 1010 (39.8) | 1554 (61.2) |



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

## NOTES:

<sup>1</sup> Based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2.

<sup>2</sup> Cooling system designed to operate in ambient conditions up to 50°C (122°F). Contact your local Cat dealer for power ratings at specific site conditions.

<sup>3</sup> Reactances shown are applicable to prime ratings. \*Based on 30% voltage dip at 0 power factor and shunt excitation system. \*\*With optional Auxiliary winding.

## DEFINITIONS

**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 kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation

cannot exceed 25 hours per year.

**STANDARD REFERENCE CONDITIONS:** Note: Standard reference conditions 25°C (77°F) air inlet temp, 100m (328ft) A.S.L. 30% relative humidity.

Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, Class A2.

**QUALITY STANDARDS:** The equipment meets the following standards: IEC60034-1, IEC60034-22, ISO3046, ISO8528, NEMA MG 1-32, NEMA MG 1-33, 2004/108/EC, 2006/42/EC, 2006/95/EC.

**FUEL RATES:** Fuel consumption reported in accordance with ISO3046-1.

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