

# Cat® C32

## Diesel Generator Sets



Image shown may not reflect actual configuration

|                                     |             |
|-------------------------------------|-------------|
| Bore – mm (in)                      | 145 (5.7)   |
| Stroke – mm (in)                    | 162 (6.4)   |
| Displacement – L (in <sup>3</sup> ) | 32.1 (1959) |
| Compression Ratio                   | 14.0:1      |
| Aspiration                          | TA          |
| Fuel System                         | EUI         |
| Governor Type                       | ADEM™ A4    |

| Standby<br>60 Hz ekW (kVA) | Mission Critical<br>60 Hz ekW (kVA) | Prime<br>60 Hz ekW (kVA) | Emissions Performance                              |
|----------------------------|-------------------------------------|--------------------------|--|
| 1100 (1375.0)              | 1100 (1375.0)                       | 1000 (1250.0)            | U.S. EPA Emergency Stationary<br>Use Only (Tier 2) |
| 1250 (1562.5)              | 1250 (1562.5)                       | 1136 (1420.0)            |  |

### Standard Features

#### Cat® Diesel Engine

- Designed and tested to meet the U.S. EPA Emergency Stationary Use Only (Tier 2) emission standards
- Reliable and consistent performance proven in thousands of applications worldwide

#### Generator Set Package

- Accepts 100% block load in one step and meets NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability is verified through prototype testing, which includes torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

#### Alternators

- Superior motor starting capability minimizes the need for oversizing the generator
- Designed to match the performance and output characteristics of Cat diesel engines

#### Cooling System

- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

#### EMCP 4 Control Panels

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

#### Warranty

- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

#### Worldwide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

#### Financing

- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

## Optional Equipment

### Engine

#### Air Cleaner

- Single element
- Dual element
- Heavy duty

#### Muffler

- Industrial grade (15 dB)

#### Starting

- Standard batteries
- Oversized batteries
- Standard electric starter
- Dual duty electric starter
- Jacket water heater

### Alternator

#### Output voltage

- 220V  440V
- 240V  480V
- 380V  600V
- 400V

#### Temperature Rise (over 40°C ambient)

- 150°C
- 125°C/130°C
- 105°C
- 80°C

#### Winding type

- Random wound
- Form wound

#### Excitation

- Self excited
- Internal excitation (IE)
- Permanent magnet (PM)

#### Attachments

- Anti-condensation heater
- Stator and bearing temperature monitoring and protection

### Power Termination

#### Type

- Bus bar
- Circuit breaker
- 400A  800A
- 1200A  1600A
- 2000A  2500A
- 3000A  3200A
- UL  IEC
- 3-pole  4-pole
- Manually operated
- Electrically operated

#### Trip Unit

- LSI  LSI-G
- LSI-G

### Factory Enclosure

- Weather protective
- Sound attenuated

#### Attachments

- Cold weather bundle
- DC lighting package
- AC lighting package
- Motorized louvers

### Fuel Tank

- Sub-base
- 1000 gal (3875 L)
- 2000 gal (7570 L)
- 3600 gal (13627 L)

### Control System

#### Controller

- EMCP 4.2B
- EMCP 4.3
- EMCP 4.4

#### Attachments

- Local annunciator module
- Remote annunciator module
- Expansion I/O module
- Remote monitoring software

### Charging

- Battery charger – 10A

### Vibration Isolators

- Rubber
- Spring
- Seismic rated

### Cat Connect

#### Connectivity

- Ethernet
- Cellular
- Satellite

### Extended Service Options

#### Terms

- 2 year (prime)
- 3 year
- 5 year
- 10 year

#### Coverage

- Silver
- Gold
- Platinum
- Platinum Plus

### Ancillary Equipment

- Automatic transfer switch (ATS)
- Uninterruptible power supply (UPS)
- Paralleling switchgear
- Paralleling controls

### Certifications

- UL 2200 Listed
- CSA
- IBC seismic certification
- OSHPD pre-approval

**Note:** Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.

**Package Performance**

| <b>Performance</b>  | <b>Standby</b>   |           | <b>Mission Critical</b> |           | <b>Prime</b>     |          |
|---|------------------|-----------|-------------------------|-----------|------------------|----------|
| Frequency   | 60 Hz            |           | 60 Hz                   |           | 60 Hz            |          |
| Gen set power rating with fan                                     | 1250 ekW         |           | 1250 ekW                |           | 1136 ekW         |          |
| Gen set power rating with fan @ 0.8 power factor                  | 1562.5 kVA       |           | 1562.5 kVA              |           | 1420.0 kVA       |          |
| Emissions   | EPA ESE (Tier 2) |           | EPA ESE (Tier 2)        |           | EPA ESE (Tier 2) |          |
| Performance number  | EM2324-09        |           | EM2532-03               |           | EM2538-01        |          |
| <b>Fuel Consumption</b>   |                  |           |                         |           |                  |          |
| 100% load with fan – L/hr (gal/hr)                                | 330.9            | (87.4)    | 330.9                   | (87.4)    | 306.6            | (81.0)   |
| 75% load with fan – L/hr (gal/hr)                                 | 268.9            | (71.0)    | 269.1                   | (71.1)    | 241.4            | (63.8)   |
| 50% load with fan – L/hr (gal/hr)                                 | 181.1            | (47.8)    | 181.3                   | (47.9)    | 167.5            | (44.3)   |
| 25% load with fan – L/hr (gal/hr)                                 | 102.1            | (27.0)    | 102.3                   | (27.0)    | 94.7             | (25.0)   |
| <b>Cooling System</b>   |                  |           |                         |           |                  |          |
| Radiator air flow restriction (system) – kPa (in. water)          | 0.12             | (0.48)    | 0.12                    | (0.48)    | 0.12             | (0.48)   |
| Radiator air flow – m <sup>3</sup> /min (cfm)                     | 1432             | (50571)   | 1432                    | (50571)   | 1432             | (50571)  |
| Engine coolant capacity – L (gal)                                 | 55.0             | (14.5)    | 55.0                    | (14.5)    | 55.0             | (14.5)   |
| Radiator coolant capacity – L (gal)                               | 55.0             | (14.5)    | 55.0                    | (14.5)    | 55.0             | (14.5)   |
| Total coolant capacity – L (gal)                                  | 110              | (29.0)    | 110                     | (29.0)    | 110              | (29.0)   |
| <b>Inlet Air</b>  |                  |           |                         |           |                  |          |
| Combustion air inlet flow rate – m <sup>3</sup> /min (cfm)        | 118.0            | (4168.3)  | 118.0                   | (4168.3)  | 114.4            | (4039.9) |
| <b>Exhaust System</b>   |                  |           |                         |           |                  |          |
| Exhaust stack gas temperature – °C (°F)                           | 430.3            | (806.6)   | 430.3                   | (806.6)   | 420.1            | (788.2)  |
| Exhaust gas flow rate – m <sup>3</sup> /min (cfm)                 | 283.4            | (10005.8) | 283.4                   | (10005.8) | 270.7            | (9558.9) |
| Exhaust system backpressure (maximum allowable) – kPa (in. water) | 6.7              | (27.0)    | 6.7                     | (27.0)    | 6.7              | (27.0)   |
| <b>Heat Rejection</b>   |                  |           |                         |           |                  |          |
| Heat rejection to jacket water – kW (Btu/min)                     | 403              | (22908)   | 403                     | (22908)   | 390              | (22199)  |
| Heat rejection to exhaust (total) – kW (Btu/min)                  | 1097             | (62361)   | 1097                    | (62361)   | 1053             | (59888)  |
| Heat rejection to aftercooler – kW (Btu/min)                      | 452              | (25715)   | 452                     | (25715)   | 433              | (24627)  |
| Heat rejection to atmosphere from engine – kW (Btu/min)           | 222              | (12620)   | 222                     | (12620)   | 209              | (11880)  |
| Heat rejection from alternator – kW (Btu/min)                     | 58.9             | (3350)    | 58.9                    | (3350)    | 52.2             | (2969)   |
| <b>Emissions* (Nominal)</b>                                       |                  |           |                         |           |                  |          |
| NOx mg/Nm <sup>3</sup> (g/hp-h)                                   | 2416.9           | (5.13)    | 2416.9                  | (5.13)    | 2127.0           | (4.58)   |
| CO mg/Nm <sup>3</sup> (g/hp-h)                                    | 53.0             | (0.11)    | 53.0                    | (0.11)    | 40.4             | (0.09)   |
| HC mg/Nm <sup>3</sup> (g/hp-h)                                    | 21.6             | (0.05)    | 21.6                    | (0.05)    | 22.2             | (0.06)   |
| PM mg/Nm <sup>3</sup> (g/hp-h)                                    | 5.1              | (0.01)    | 5.1                     | (0.01)    | 6.8              | (0.02)   |
| <b>Emissions* (Potential Site Variation)</b>                      |                  |           |                         |           |                  |          |
| NOx mg/Nm <sup>3</sup> (g/hp-h)                                   | 2924.5           | (6.20)    | 2924.5                  | (6.20)    | 2573.7           | (5.54)   |
| CO mg/Nm <sup>3</sup> (g/hp-h)                                    | 99.1             | (0.21)    | 99.1                    | (0.21)    | 75.5             | (0.16)   |
| HC mg/Nm <sup>3</sup> (g/hp-h)                                    | 40.8             | (0.10)    | 40.8                    | (0.10)    | 42.0             | (0.10)   |
| PM mg/Nm <sup>3</sup> (g/hp-h)                                    | 10.0             | (0.02)    | 10.0                    | (0.02)    | 13.2             | (0.03)   |

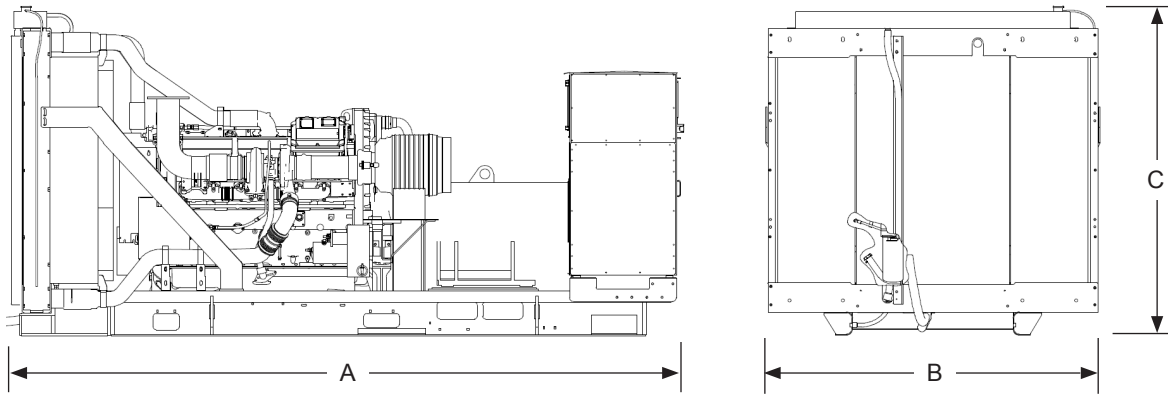
*\*mg/Nm<sup>3</sup> levels are corrected to 5% O<sub>2</sub>. Contact your local Cat dealer for further information*

## Package Performance

| Performance   | Standby          |          | Mission Critical |          | Prime            |          |
|---|------------------|----------|------------------|----------|------------------|----------|
| Frequency   | 60 Hz            |          | 60 Hz            |          | 60 Hz            |          |
| Gen set power rating with fan                                     | 1100 ekW         |          | 1100 ekW         |          | 1000 ekW         |          |
| Gen set power rating with fan @ 0.8 power factor                  | 1375 kVA         |          | 1375 kVA         |          | 1250 kVA         |          |
| Emissions   | EPA ESE (Tier 2) |          | EPA ESE (Tier 2) |          | EPA ESE (Tier 2) |          |
| Performance number  | EM2325-07        |          | EM2533-03        |          | EM2539-01        |          |
| <b>Fuel Consumption</b>   |                  |          |                  |          |                  |          |
| 100% load with fan – L/hr (gal/hr)                                | 299.8            | (79.2)   | 299.8            | (79.2)   | 281.2            | (74.3)   |
| 75% load with fan – L/hr (gal/hr)                                 | 232.8            | (61.5)   | 232.8            | (61.5)   | 210.6            | (55.6)   |
| 50% load with fan – L/hr (gal/hr)                                 | 163.2            | (43.1)   | 163.2            | (43.1)   | 151.3            | (40.0)   |
| 25% load with fan – L/hr (gal/hr)                                 | 92.3             | (24.4)   | 92.3             | (24.4)   | 85.4             | (22.6)   |
| <b>Cooling System</b>   |                  |          |                  |          |                  |          |
| Radiator air flow restriction (system) – kPa (in. water)          | 0.12             | (0.48)   | 0.12             | (0.48)   | 0.12             | (0.48)   |
| Radiator air flow – m <sup>3</sup> /min (cfm)                     | 1432             | (50571)  | 1432             | (50571)  | 1432             | (50571)  |
| Engine coolant capacity – L (gal)                                 | 55.0             | (14.5)   | 55.0             | (14.5)   | 55.0             | (14.5)   |
| Radiator coolant capacity – L (gal)                               | 55.0             | (14.5)   | 55.0             | (14.5)   | 55.0             | (14.5)   |
| Total coolant capacity – L (gal)                                  | 110              | (29.0)   | 110              | (29.0)   | 110              | (29.0)   |
| <b>Inlet Air</b>  |                  |          |                  |          |                  |          |
| Combustion air inlet flow rate – m <sup>3</sup> /min (cfm)        | 113.4            | (4004.9) | 113.4            | (4004.9) | 110.6            | (3905.2) |
| <b>Exhaust System</b>   |                  |          |                  |          |                  |          |
| Exhaust stack gas temperature – °C (°F)                           | 417.3            | (783.2)  | 417.3            | (783.2)  | 410.6            | (771.1)  |
| Exhaust gas flow rate – m <sup>3</sup> /min (cfm)                 | 266.9            | (9425.0) | 266.9            | (9425.0) | 257.6            | (9097.1) |
| Exhaust system backpressure (maximum allowable) – kPa (in. water) | 6.7              | (27.0)   | 6.7              | (27.0)   | 6.7              | (27.0)   |
| <b>Heat Rejection</b>   |                  |          |                  |          |                  |          |
| Heat rejection to jacket water – kW (Btu/min)                     | 385              | (21898)  | 385              | (21898)  | 367              | (20867)  |
| Heat rejection to exhaust (total) – kW (Btu/min)                  | 1036             | (58923)  | 1036             | (58923)  | 981              | (55782)  |
| Heat rejection to aftercooler – kW (Btu/min)                      | 424              | (24138)  | 424              | (24138)  | 394              | (22416)  |
| Heat rejection to atmosphere from engine – kW (Btu/min)           | 204              | (11618)  | 204              | (11618)  | 190              | (10824)  |
| Heat rejection from alternator – kW (Btu/min)                     | 54.2             | (3082)   | 54.2             | (3082)   | 49.3             | (2804)   |
| <b>Emissions* (Nominal)</b>                                       |                  |          |                  |          |                  |          |
| NOx mg/Nm <sup>3</sup> (g/hp-h)                                   | 2018.8           | (4.38)   | 2018.8           | (4.38)   | 1717.3           | (3.83)   |
| CO mg/Nm <sup>3</sup> (g/hp-h)                                    | 37.4             | (0.08)   | 37.4             | (0.08)   | 41.4             | (0.09)   |
| HC mg/Nm <sup>3</sup> (g/hp-h)                                    | 22.5             | (0.06)   | 22.5             | (0.06)   | 23.2             | (0.06)   |
| PM mg/Nm <sup>3</sup> (g/hp-h)                                    | 7.2              | (0.02)   | 7.2              | (0.02)   | 8.3              | (0.02)   |
| <b>Emissions* (Potential Site Variation)</b>                      |                  |          |                  |          |                  |          |
| NOx mg/Nm <sup>3</sup> (g/hp-h)                                   | 2442.7           | (5.30)   | 2442.7           | (5.30)   | 2077.9           | (4.63)   |
| CO mg/Nm <sup>3</sup> (g/hp-h)                                    | 69.9             | (0.15)   | 69.9             | (0.15)   | 77.4             | (0.17)   |
| HC mg/Nm <sup>3</sup> (g/hp-h)                                    | 42.6             | (0.11)   | 42.6             | (0.11)   | 43.9             | (0.11)   |
| PM mg/Nm <sup>3</sup> (g/hp-h)                                    | 14.1             | (0.04)   | 14.1             | (0.04)   | 16.1             | (0.04)   |

\*mg/Nm<sup>3</sup> levels are corrected to 5% O<sub>2</sub>. Contact your local Cat dealer for further information

## Weights and Dimensions



| Standby<br>60 Hz<br>ekW (kVA) | Mission Critical<br>60 Hz<br>ekW (kVA) | Prime<br>60 Hz<br>ekW (kVA) | Dim "A"<br>mm (in) | Dim "B"<br>mm (in) | Dim "C"<br>mm (in) | Dry Weight<br>kg (lb) |
|-------------------------------|--|-----------------------------|--------------------|--------------------|--------------------|-----------------------|
| 1100 (1375.0)                 | 1100 (1375.0)                          | 1000 (1250.0)               | 4285 (168.7)       | 2228 (87.7)        | 2194 (86.4)        | 7400 (16,314)         |
| 1250 (1562.5)                 | 1250 (1562.5)                          | 1136 (1420.0)               | 4385 (172.7)       | 2228 (87.7)        | 2194 (86.4)        | 7600 (16,755)         |

**Note:** For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.

## Ratings 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.

### Mission Critical

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical power rating. Typical peak demand up to 100% of rated power for up to 5% of the operating time. 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.

### Applicable Codes and Standards

AS 1359, CSA C22.2 No. 100-04, UL 142, UL 489, UL 869, UL 2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU.

**Note:** Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

### Data Center Applications

- ISO 8528-1 Data Center Power (DCP) compliant per DCP application of Cat diesel generator set prime power rating.
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

### Fuel Rates

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.)

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Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.