

Generator set data sheet



Model: C3500 D5e
Frequency: 50 Hz
Fuel type: Diesel
kVA rating: 3500 Standby
 3125 Prime
 2750 Continuous
Emissions level: EPA Tier 2

| Fuel consumption | Standby | | | | Prime | | | | Continuous | | | |
|----------------------------------|-------------|-----|-----|------|-------------|-----|-----|------|-------------|-----|-----|------|
| | kVA (kW) | | | | kVA (kW) | | | | kVA (kW) | | | |
| Ratings | 3500 (2800) | | | | 3125 (2500) | | | | 2750 (2200) | | | |
| Ratings without fan ¹ | 3594 (2875) | | | | 3220 (2576) | | | | 2845 (2276) | | | |
| Load | 1/4 | 1/2 | 3/4 | Full | 1/4 | 1/2 | 3/4 | Full | 1/4 | 1/2 | 3/4 | Full |
| US gph | 59 | 100 | 141 | 181 | 55 | 90 | 126 | 162 | 50 | 82 | 113 | 145 |
| L/hr | 223 | 379 | 534 | 685 | 208 | 341 | 477 | 613 | 189 | 310 | 428 | 549 |

¹Ratings for reference with the optional remote radiator cooling configuration. See note 1 under "Alternator data" section.

| Engine | Standby rating | Prime rating | Continuous rating |
|--------------------------------------|-------------------------------|--------------|-------------------|
| Engine model | QSK95-G10 | | |
| Configuration | Cast iron, Vee, 16 cylinder | | |
| Aspiration | Turbocharged and after-cooled | | |
| Gross engine power output, kWm (bhp) | 3004 (4027) | 2665 (3572) | 2354 (3156) |
| BMEP at set rated load, kPa (psi) | 2517 (365) | 2234 (324) | 1972 (286) |
| Bore, mm (in) | 190.0 (7.48) | | |
| Stroke, mm (in) | 210.1 (8.27) | | |
| Rated speed, rpm | 1500 | | |
| Piston speed, m/s (ft/min) | 10.5 (2067) | | |
| Compression ratio | 15.5:1 | | |
| Lube oil capacity, L (qt) | 647 (684) | | |
| Overspeed limit, rpm | 2070 | | |
| Regenerative power, kW | 430 | | |

| Fuel flow | |
|---|------------|
| Maximum fuel flow, L/hr (US gph) | 1427 (377) |
| Maximum fuel inlet restriction with clean filter, kPa (in Hg) | 16.9 (5) |
| Maximum fuel return line restriction kPa (in Hg) | 34 (10) |
| Maximum fuel inlet temperature, °C (°F) | 71.1 (160) |
| Maximum fuel outlet temperature, °C (°F) | 92.2 (198) |

| Air | | | |
|--|------------|------------|------------|
| Combustion air, m ³ /min (scfm) | 248 (8760) | 237 (8370) | 227 (8010) |
| Maximum air cleaner restriction with clean filter, mm H ₂ O (in H ₂ O) | 457 (18) | | |
| Alternator cooling air, m ³ /min (cfm) | 240 (8476) | | |

| Exhaust | Standby rating | Prime rating | Continuous rating |
|---|-----------------------|---------------------|--------------------------|
| Exhaust flow at set rated load, m ³ /min (cfm) | 558 (19720) | 516 (18220) | 477 (16860) |
| Exhaust temperature at set rated load, °C (°F) | 408 (767) | 386 (727) | 366 (690) |
| Maximum back pressure, kPa (in H ₂ O) | 7 (28) | | |

Standard set-mounted radiator cooling

| | |
|--|---------------|
| Ambient design, °C (°F) | 45 (113) |
| Fan load, kWm (HP) | 78 (105) |
| Coolant capacity (with radiator), L (US gal) | 1120 (296) |
| Cooling system air flow, m ³ /min (scfm) | 3135 (110700) |
| Maximum cooling air flow static restriction, kPa (in H ₂ O) | 0.12 (0.5) |

Optional set-mounted radiator cooling

| | |
|--|---------------|
| Ambient design, °C (°F) | 55 (131) |
| Fan load, kWm (HP) | 78 (105) |
| Coolant capacity (with radiator), L (US gal) | 1120 (296) |
| Cooling system air flow, m ³ /min (scfm) | 3135 (110700) |
| Maximum cooling air flow static restriction, kPa (in H ₂ O) | 0.12 (0.5) |

Optional remote radiator cooling

| | | | |
|---|---------------|---------------|---------------|
| Engine coolant capacity, L (US gal) | 379 (100) | | |
| Max flow rate at max friction head, jacket water circuit, L/min (US gal/min) | 2559 (676) | | |
| Max flow rate at max friction head, after-cooler circuit, L/min (US gal/min) | 538 (142) | | |
| Heat rejected, jacket water circuit, MJ/min (Btu/min) | 75.60 (71630) | 67.50 (63960) | 60.10 (56960) |
| Heat rejected, after-cooler circuit, MJ/min (Btu/min) | 19.40 (18390) | 17.10 (16250) | 15.10 (14300) |
| Heat rejected, fuel circuit, MJ/min (Btu/min) | 0.24 (223) | 0.21 (195) | 0.18 (170) |
| Total heat radiated to room, MJ/min (Btu/min) | 22.30 (21110) | 19.90 (18820) | 17.60 (16680) |
| Maximum friction head, jacket water circuit, kPa (psi) | 59 (8.5) | | |
| Maximum friction head, after-cooler circuit, kPa (psi) | 59 (8.5) | | |
| Maximum static head above engine crank centerline, jacket water circuit, m (ft) | 18 (60) | | |
| Maximum static head above engine crank centerline, after-cooler circuit, m (ft) | 18 (60) | | |
| Maximum jacket water outlet temp, °C (°F) | 104.4 (220) | 100 (212) | 100 (212) |
| Maximum aftercooler inlet temp, °C (°F) | 71.1 (160) | 68 (155) | 68 (155) |
| Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F) | 46.1 (115) | | |

Note: For non-standard remote installations contact your local Cummins representative.

Weights

| | |
|---------------------------|---------------|
| Unit dry weight kgs (lbs) | 29500 (65100) |
| Unit wet weight kgs (lbs) | 31200 (68771) |

Note: Weights represent a set with standard features and alternator frame P80X. See outline drawing for weights of other configurations.

Derating factors

| | |
|-------------------|---|
| Standby | Full genset power available up to 1406 m (4613 ft) at ambient temperatures up to 40 °C (104 °F) and 1378 m (4521 ft) at ambient temperatures up to 50 °C (122 °F). Above these conditions, derate at 4.1% per 305 m (1000 ft) and 9.9% per 10 °C (18 °F). |
| Prime | Full genset power available up to 1844 m (6050 ft) at ambient temperatures up to 40 °C (104 °F) and 1760 m (5774 ft) at ambient temperatures up to 50 °C (122 °F). Above these conditions, derate at 4.9% per 305 m (1000 ft) and 12% per 10 °C (18 °F). |
| Continuous | Full genset power available up to 2436 m (7992 ft) at ambient temperatures up to 40 °C (104 °F) and 1470 m (4823 ft) at ambient temperatures up to 50 °C (122 °F). Above these conditions, derate at 7.6% per 305 m (1000 ft) and 38% per 10 °C (18 °F). |

Ratings definitions

| Emergency Standby Power (ESP): | Limited-Time Running Power (LTP): | Prime Power (PRP): | Base Load (Continuous) Power (COP): |
|--|--|---|--|
| Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514. | Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528. | Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514. | Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514. |

Alternator data¹

| Voltage | Connection | Temp rise °C | Duty ² | Max surge kVA | Winding number | Alternator data sheet | Feature code |
|---------|--------------|--------------|-------------------|---------------|----------------|-----------------------|--------------|
| 380 | Wye, 3-phase | 125 | S | 11145 | 12 | ADS-532 | BA59-2 |
| 380-440 | Wye, 3-phase | 150/125 | S/P | 10132 | 12 | ADS-531 | B667-2 |
| 380 | Wye, 3-phase | 105 | P | 9956 | 12 | ADS-531 | B630-2 |
| 380 | Wye, 3-phase | 80 | C | 11145 | 12 | ADS-532 | BB83-2 |
| 380 | Wye, 3-phase | 105 | C | 9956 | 12 | ADS-531 | BA58-2 |
| 400 | Wye, 3-phase | 105 | S | 11146 | 12 | ADS-532 | BA60-2 |
| 400-415 | Wye, 3-phase | 125/105/80 | S/P/C | 10132 | 12 | ADS-531 | B637-2 |
| 400-415 | Wye, 3-phase | 80 | P | 11146 | 12 | ADS-532 | B634-2 |
| 400 | Wye, 3-phase | 105 | C | 9954 | 12 | ADS-531 | BA61-2 |
| 415 | Wye, 3-phase | 105 | S | 11146 | 12 | ADS-532 | BA67-2 |
| 415 | Wye, 3-phase | 105 | C | 10132 | 12 | ADS-531 | BA65-2 |
| 440 | Wye, 3-phase | 125/105 | S/P | 11025 | 12 | ADS-532 | B712-2 |
| 440 | Wye, 3-phase | 80 | C | 11025 | 12 | ADS-532 | BA70-2 |
| 440 | Wye, 3-phase | 105 | C | 9853 | 12 | ADS-531 | BA71-2 |
| 690 | Wye, 3-phase | 105 | S | 11970 | 65 | ADS-586 | BA75-2 |
| 690 | Wye, 3-phase | 125 | S | 9960 | 65 | ADS-531 | BA77-2 |
| 690 | Wye, 3-phase | 150 | S | 9960 | 65 | ADS-531 | BA78-2 |
| 690 | Wye, 3-phase | 105 | P | 9960 | 65 | ADS-531 | BA74-2 |
| 690 | Wye, 3-phase | 125 | P | 9960 | 65 | ADS-531 | BA76-2 |
| 690 | Wye, 3-phase | 50 | C | 9960 | 65 | ADS-531 | BA72-2 |
| 690 | Wye, 3-phase | 105 | C | 9960 | 65 | ADS-531 | BA73-2 |

Notes:

¹Alternator data is configured for a set with ratings including engine cooling fan losses and standard features at 40 °C ambient temperature. For non-standard configurations, including remote radiator applications, check appropriate alternator data sheets or contact your local Cummins representative.

²Standby (S), Prime (P) and Continuous ratings (C).

³Maximum rated starting kVA that results in a minimum of 90% of rated sustained voltage during starting.

Alternator data¹ (Continued)

| Voltage | Connection | Temp rise °C | Duty ² | Max surge kVA | Winding number | Alternator data sheet | Feature code |
|---------|--------------|--------------|-------------------|---------------|----------------|-----------------------|--------------|
| 3300 | Wye, 3-phase | 80 | S | 10845 | 51 | ADS-587 | B620-2 |
| 3300 | Wye, 3-phase | 105 | S | 10845 | 51 | ADS-587 | BA80-2 |
| 3300 | Wye, 3-phase | 125/105/80 | S/P/C | 9481 | 51 | ADS-545 | B470-2 |
| 3300 | Wye, 3-phase | 150 | S | 9481 | 51 | ADS-545 | BB78-2 |
| 3300 | Wye, 3-phase | 80 | P | 10845 | 51 | ADS-587 | BA79-2 |
| 3300 | Wye, 3-phase | 125 | P | 7040 | 51 | ADS-520 | BB79-2 |
| 3300 | Wye, 3-phase | 105 | C | 7040 | 51 | ADS-520 | B471-2 |
| 6000 | Wye, 3-phase | 80 | S | 13774 | 8009 | ADS-590 | BA83-2 |
| 6000 | Wye, 3-phase | 105 | S | 10463 | 71 | ADS-534 | BA86-2 |
| 6000 | Wye, 3-phase | 125 | S | 10463 | 71 | ADS-534 | BB80-2 |
| 6000 | Wye, 3-phase | 80 | P | 10463 | 71 | ADS-534 | BA82-2 |
| 6000 | Wye, 3-phase | 105 | P | 8866 | 71 | ADS-533 | BA85-2 |

Notes:

¹Alternator data is configured for a set with ratings including engine cooling fan losses and standard features at 40 °C ambient temperature. For non-standard configurations, including remote radiator applications, check appropriate alternator data sheets or contact your local Cummins representative.

²Standby (S), Prime (P) and Continuous ratings (C).

³Maximum rated starting kVA that results in a minimum of 90% of rated sustained voltage during starting.

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

For more information contact your local Cummins distributor
or visit power.cummins.com

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