

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.