

## Generator Set Data Sheet



**Power  
Generation**

**Model:** C3500 D5  
**Frequency:** 50 Hz  
**Fuel type:** Diesel  
**kVA rating:** 3500 Standby  
 3125 Prime  
 2750 Continuous  
**Emissions level:** Unregulated

Fuel consumption	Standby				Prime				Continuous			
	kVA (kW)				kVA (kW)				kVA (kW)			
Ratings	3500 (2800)				3125 (2500)				2750 (2200)			
Ratings without fan <sup>1</sup>	3594 (2875)				3220 (2576)				2845 (2276)			
<b>Load</b>	<b>1/4</b>	<b>1/2</b>	<b>3/4</b>	<b>Full</b>	<b>1/4</b>	<b>1/2</b>	<b>3/4</b>	<b>Full</b>	<b>1/4</b>	<b>1/2</b>	<b>3/4</b>	<b>Full</b>
US gph	54	94	134	175	49	85	120	156	45	76	108	139
L/hr	204	356	507	662	185	322	454	590	170	288	409	526

<sup>1</sup>Ratings 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-G4		
Configuration	Cast iron, Vee, 16 cylinder		
Aspiration	Turbocharged and Aftercooled		
Gross engine power output, kWm (bhp)	3004 (4027)	2665 (3572)	2354 (3156)
BMEP at set rated load, kPa (psi)	2523 (366)	2234 (324)	1979 (287)
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	230		

### Fuel flow

Maximum fuel flow, L/hr (US gph)	1392.9 (368)
Maximum fuel inlet restriction with clean filter, kPa (inHg)	13.5 (4)
Maximum fuel return line restriction, kPa (inHg)	34 (10)
Maximum fuel inlet temperature, °C (°F)	71.1 (160)
Maximum fuel outlet temperature, °C (°F)	92.2 (198)

### Air

Combustion air, m <sup>3</sup> /min (scfm)	235 (8300)	219 (7750)	205 (7250)
Maximum air cleaner restriction with clean filter, mmH <sub>2</sub> O (inH <sub>2</sub> O)	457 (18)		
Alternator cooling air, m <sup>3</sup> /min (scfm)	240 (8476)		

### Exhaust

Exhaust flow at set rated load, m <sup>3</sup> /min (cfm)	522 (18450)	484 (17100)	449 (15860)
Exhaust temperature at set rated load, °C (°F)	397 (747)	385 (725)	374 (705)
Maximum back pressure, kPa (inH <sub>2</sub> O)	7 (28)		

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<b>Standard set-mounted radiator cooling</b>	<b>Standby rating</b>	<b>Prime rating</b>	<b>Continuous rating</b>
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 <sup>3</sup> /min (scfm)	3135 (110700)		
Maximum cooling air flow static restriction, kPa (inH <sub>2</sub> 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 <sup>3</sup> /min (scfm)	3135 (110700)		
Maximum cooling air flow static restriction, kPa (inH <sub>2</sub> 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, aftercooler circuit, L/min (US gal/min)	538 (142)		
Heat rejected, jacket water circuit, MJ/min (Btu/min)	74.20 (70290)	66.60 (63090)	59.60 (56500)
Heat rejected, aftercooler circuit, MJ/min (Btu/min)	18 (17080)	15.50 (14670)	13.10 (12460)
Heat rejected, fuel circuit, MJ/min (Btu/min)	0.23 (214)	0.20 (188)	0.17 (164)
Total heat radiated to room, MJ/min (Btu/min)	21.80 (20650)	19.40 (18390)	17.20 (16280)
Maximum friction head, jacket water circuit, kPa (psi)	59 (8.5)		
Maximum friction head, aftercooler 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, aftercooler 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 Power Generation representative.

### Weights

Unit dry weight kg (lb)	29500 (65100)
Unit wet weight kg (lb)	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 1370 m (4495 ft) at ambient temperatures up to 40 °C (104 °F) and 1271 m (4170 ft) at ambient temperatures up to 50 °C (122 °F). Above these conditions, derate at 3.3% per 305 m (1000 ft) and 2% per 10 °C (18 °F).
Prime	Full genset power available up to 2004 m (6575 ft) at ambient temperatures up to 40 °C (104 °F) and 1607 m (5272 ft) at ambient temperatures up to 50 °C (122 °F). Above these conditions, derate at 3.4% per 305 m (1000 ft) and 8% per 10 °C (18 °F).
Continuous	Full genset power available up to 3024 m (9921 ft) at ambient temperatures up to 40 °C (104 °F) and 2333 m (7654 ft) at ambient temperatures up to 50 °C (122 °F). Above these conditions, derate at 3.7% per 305 m (1000 ft) and 8% per 10 °C (18 °F).

### Ratings definitions

<b>Emergency standby power (ESP)</b>	<b>Limited-time running power (LTP)</b>	<b>Prime power (PRP)</b>	<b>Base load (continuous) power (COP)</b>
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 data<sup>1</sup>

Voltage	Connection	Temp rise degrees C	Duty <sup>2</sup>	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	80	C	9960	65	ADS-531	BA72-2
690	Wye, 3-phase	105	C	9960	65	ADS-531	BA73-2
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

### Notes:

<sup>1</sup>Alternator 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 Power Generation representative.

<sup>2</sup>Standby (S), Prime (P) and Continuous ratings (C).

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

## Alternator data<sup>1</sup> (Continued)

Voltage	Connection	Temp rise degrees C	Duty <sup>2</sup>	Max surge kVA	Winding number	Alternator data sheet	Feature code
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
6000	Wye, 3-phase	80	C	8866	71	ADS-533	BA81-2
6000	Wye, 3-phase	105	C	6900	71	ADS-523	BA84-2
6300-6600	Wye, 3-phase	80	S	13770/14175	8008	ADS-589	B642-2
6300	Wye, 3-phase	105	S	10727	61	ADS-534	B497-2
6300	Wye, 3-phase	125	S	10727	61	ADS-534	BA88-2
6300	Wye, 3-phase	80	P	10727	61	ADS-534	B645-2
6300	Wye, 3-phase	105	P	9440	61	ADS-533	B498-2
6300	Wye, 3-phase	80	C	9440	61	ADS-533	BA87-2
6300	Wye, 3-phase	105	C	9440	61	ADS-533	B482-2
6600	Wye, 3-phase	105	S	10656	61	ADS-534	B679-2
6600	Wye, 3-phase	125	S	9378	61	ADS-533	BA91-2
6600	Wye, 3-phase	80	P	10656	61	ADS-534	BA89-2
6600	Wye, 3-phase	105	P	9378	61	ADS-533	BA90-2
6600	Wye, 3-phase	80	C	9378	61	ADS-533	B828-2
6600	Wye, 3-phase	105	C	6932	61	ADS-523	B793-2
10k	Wye, 3-phase	80	S	13985	8023	ADS-590	BA93-2
10k	Wye, 3-phase	105	S	10427	81	ADS-534	BA94-2
10k	Wye, 3-phase	125	S	10427	81	ADS-534	BA95-2
10k	Wye, 3-phase	80	P	10427	81	ADS-534	BA92-2
10k	Wye, 3-phase	105	P	9125	81	ADS-533	B494-2
10k	Wye, 3-phase	80	C	9125	81	ADS-533	B794-2
10k	Wye, 3-phase	105	C	6627	81	ADS-523	B474-2
10.5k	Wye, 3-phase	80	S	13770	8022	ADS-589	BA98-2
10.5k	Wye, 3-phase	105	S	10665	83	ADS-534	BB01-2
10.5k	Wye, 3-phase	125	S	10665	83	ADS-534	BB02-2
10.5k	Wye, 3-phase	80	P	12784	8021	ADS-588	BA97-2
10.5k	Wye, 3-phase	105	P	10665	83	ADS-534	BA99-2
10.5k	Wye, 3-phase	80	C	10665	83	ADS-534	BA96-2
10.5k	Wye, 3-phase	105	C	9333	83	ADS-533	B475-2
11k	Wye, 3-phase	80	S	13770	8022	ADS-589	B624-2
11k	Wye, 3-phase	105	S	10613	83	ADS-534	B477-2
11k	Wye, 3-phase	125	S	10613	83	ADS-534	BB84-2
11k	Wye, 3-phase	80	P	10613	83	ADS-534	B985-2
11k	Wye, 3-phase	105	P	9288	83	ADS-533	B496-2
11k	Wye, 3-phase	80	C	9288	83	ADS-533	B594-2
11k	Wye, 3-phase	105	C	6784	83	ADS-523	B478-2

### Notes:

<sup>1</sup>Alternator 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 Power Generation representative.

<sup>2</sup>Standby (S), Prime (P) and Continuous ratings (C).

<sup>3</sup>Maximum 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.

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