

Model: DFCE
KW rating: 400 standby
Frequency: 60
Fuel type: Diesel

➤ **Generator set data sheet**

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Exhaust emission data sheet:	EDS-153
Exhaust emission compliance sheet:	
Sound performance data sheet:	MSP-148
Cooling performance data sheet:	MCP-133
Prototype test summary data sheet:	PTS-108
Standard set-mounted radiator cooling outline:	0500-3084
Optional set-mounted radiator cooling outline:	
Optional heat exchanger cooling outline:	
Optional remote radiator cooling outline:	

Fuel consumption	Standby				Prime				Continuous
	kW (kVA)				kW (kVA)				kW (kVA)
Ratings	400 (500)								
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	Full
US gph	9.1	15.9	22.1	29.1					
L/hr	34	60	84	110					

Engine	Standby rating	Prime rating	Continuous rating
Engine manufacturer	Cummins Inc.		
Engine model	NTA855-G5		
Configuration	Cast iron with replaceable wet cylinder liners, in-line 6 cylinder		
Aspiration	Turbocharged and aftercooled		
Gross engine power output, kWm (bhp)	451.3 (605.0)		
BMEP at rated load, kPa (psi)	2144.3 (311.0)		
Bore, mm (in)	139.7 (5.50)		
Stroke, mm (in)	152.4 (6.0)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	9.1 (1800.0)		
Compression ratio	14.0:1		
Lube oil capacity, L (qt)	37.9 (40.0)		
Overspeed limit, rpm			
Regenerative power, kW	35.0		

Fuel flow			
Fuel flow at rated load, L/hr (US gph)	213.1 (56.3)		
Maximum inlet restriction, mm Hg (in Hg)	101.6 (4.0)		
Maximum return restriction, mm Hg (in Hg)	152.4 (6.0)		

Air	Standby rating	Prime rating	Continuous rating
Combustion air, m ³ /min (scfm)	37.6 (1330.0)		
Maximum air cleaner restriction, kPa (in H ₂ O)	6.2 (25.0)		
Alternator cooling air, m ³ /min (scfm)	78.7 (2780.0)		

Exhaust

Exhaust flow at rated load, m ³ /min (cfm)	107.0 (3780.0)		
Exhaust temperature, °C (°F)	535.0 (995.0)		
Maximum back pressure, kPa (in H ₂ O)	10.2 (41.0)		

Standard set-mounted radiator cooling

Ambient design, °C (°F)	50 (122)		
Fan load, kW (HP)	20.9 (28.0)		
Coolant capacity (with radiator), L (US gal)	57.9 (15.3)		
Coolant system air flow, m ³ /min (scfm)	557.5 (19700)		
Total heat rejection, MJ/min (Btu/min)	21.9 (20705)		
Maximum cooling air flow static restriction, kPa (in H ₂ O)	0.12 (0.5)		

Optional set-mounted radiator cooling

Ambient design, °C (°F)			
Fan load, kW _m (HP)			
Coolant capacity (with radiator), L (US gal)			
Cooling system air flow, m ³ /min (scfm)			
Total heat rejection, MJ/min (Btu/min)			
Maximum cooling air flow static restriction, kPa (in H ₂ O)			

Optional heat exchanger cooling

Set coolant capacity, L (US gal)			
Heat rejected, jacket water circuit, MJ/min (Btu/min)			
Heat rejected, after-cooler circuit, MJ/min (Btu/min)			
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)			
Maximum raw water pressure, jacket water circuit, kPa (psi)			
Maximum raw water pressure, aftercooler circuit, kPa (psi)			
Maximum raw water pressure, fuel circuit, kPa (psi)			
Maximum raw water flow, jacket water circuit, L/min (US gal/min)			
Maximum raw water flow, aftercooler circuit, L/min (US gal/min)			
Maximum raw water flow, fuel circuit, L/min (US gal/min)			
Minimum raw water flow @ 27 °C (80 °F) Inlet temp, jacket water circuit, L/min (US gal/min)			
Minimum raw water flow @ 27 °C (80 °F) Inlet temp, after-cooler circuit, L/min (US gal/min)			
Minimum raw water flow @ 27 °C (80 °F) Inlet temp, fuel circuit, L/min (US gal/min)			
Raw water delta P @ min flow, jacket water circuit, kPa (psi)			
Raw water delta P @ min flow, after-cooler circuit, kPa (psi)			
Raw water delta P @ min flow, fuel circuit, kPa (psi)			
Maximum jacket water outlet temp, °C (°F)			
Maximum after-cooler inlet temp, °C (°F)			
Maximum after-cooler inlet temp @ 25 °C (77 °F) ambient, °C (°F)			

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Optional remote radiator cooling¹

Set coolant capacity, L (US gal)			
Max flow rate @ max friction head, jacket water circuit, L/min (US gal/min)			
Heat rejected, jacket water circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)			
Maximum friction head, jacket water circuit, kPa (psi)			
Maximum static head, jacket water circuit, m (ft)			
Maximum jacket water outlet temp, °C (°F)			

Weights²

Unit dry weight kgs (lbs)	3289 (7250)
Unit wet weight kgs (lbs)	3393 (7480)

Notes:

¹ For non-standard remote installations contact your local Cummins Power Generation representative.

² Weights represent a set with standard features. See outline drawing for weights of other configurations.

Derating factors

Standby	Rated power available up to 762 m (2500 ft) at ambient temperatures up to 40 °C (104 °F). Above 762 m (2500 ft), derate at 4% per 305 m (1000 ft), and 2% per 11 °C (1% per 10 °F).
Prime	
Continuous	

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.

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Alternator data

Three phase table ¹		105 °C	105 °C	125 °C	125 °C	125 °C	125 °C					
Feature code		B259	B301	B258	B252	B246	B300					
Alternator data sheet number		306	305	306	305	305	305					
Voltage ranges		110/190 thru 139/240 220/380 thru 277/480	347/600	110/190 thru 139/240 220/380 thru 277/480	120/208 thru 139/240 240/416 thru 277/480	277/480	347/600					
Surge kW		404	406	404	403	407	406					
Motor starting kVA (at 90% sustained voltage)	Shunt											
	PMG	1896	1749	1896	1749	1749	1749					

Full load current amps at standby rating	120/208 1388	139/240 1203	277/480 601	347/600 481
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¹. Single phase power can be taken from a three phase generator set at up to 40% of the generator set nameplate kW rating at unity power factor.

Formulas for calculating full load currents:

Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

Single phase output

$$\frac{\text{kW} \times \text{SinglePhaseFactor} \times 1000}{\text{Voltage}}$$

Cummins Power Generation

1400 73rd Avenue N.E.
Minneapolis, MN 55432 USA
Phone: 763 574 5000
Fax: 763 574 5298

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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