

Model: DFHC
KW rating: 800 standby
725 prime
Frequency: 50
Fuel type: Diesel

➤ **Generator set data sheet**



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Exhaust emission data sheet:	EDS-254
Exhaust emission compliance sheet:	
Sound performance data sheet:	MSP-251
Cooling performance data sheet:	
Prototype test summary data sheet:	PTS-226
Standard set-mounted radiator cooling outline:	0500-3134
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	800 (1000)				725 (906)				
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	Full
US gph	15.5	27	39.4	52.1	14.3	24.7	35.7	46.9	
L/hr	59	102	149	197	54	94	135	178	

Engine	Standby rating	Prime rating	Continuous rating
Engine manufacturer	Cummins Inc.		
Engine model	QST30-G3		
Configuration	Cast iron, 50°V 12 cylinder		
Aspiration	Turbocharged and aftercooled		
Gross engine power output, kWm (bhp)	895.2 (1200.0)	805.7 (1080.0)	
BMEP at rated load, kPa (psi)	2358.0 (342.0)	2116.7 (307.0)	
Bore, mm (in)	140.0 (5.51)		
Stroke, mm (in)	165.1 (6.50)		
Rated speed, rpm	1500		
Piston speed, m/s (ft/min)	8.3 (1634.0)		
Compression ratio	14.0:1		
Lube oil capacity, L (qt)	132.5 (140.0)		
Overspeed limit, rpm	2100 ± 50		
Regenerative power, kW	58.00		

Fuel flow		
Fuel flow at rated load, L/hr (US gph)	548.8 (145.0)	
Maximum inlet restriction, mm Hg (in Hg)	101.6 (4.0)	
Maximum return restriction, mm Hg (in Hg)	508.0 (20.0)	

Air	Standby rating	Prime rating	Continuous rating
Combustion air, m ³ /min (scfm)	56.2 (1985.0)	51.8 (1830.0)	
Maximum air cleaner restriction, kPa (in H ₂ O)	6.2 (25.0)		
Alternator cooling air, m ³ /min (scfm)	158.5 (5600.0)		

Exhaust

Exhaust flow at rated load, m ³ /min (cfm)	162.9 (5755.0)	145.7 (5150.0)	
Exhaust temperature, °C (°F)	563.3 (1046.0)	540.6 (1005.0)	
Maximum back pressure, kPa (in H ₂ O)	10.2 (41.0)		

Standard set-mounted radiator cooling

Ambient design, °C (°F)	40 (104)		
Fan load, kW (HP)	24.5 (32.9)		
Coolant capacity (with radiator), L (US gal)	200.6 (53.0)		
Coolant system air flow, m ³ /min (scfm)	801.8 (28333)		
Total heat rejection, MJ/min (Btu/min)	32.6 (30770)	29.9 (28225)	
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)	7540 (16622)
Unit wet weight kgs (lbs)	7837 (17278)

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 1283 m (4210 ft) at ambient temperatures up to 40 °C (104 °F) or up to 683 m (2240 ft) at ambient temperature up to 50 °C (102 °F). For operation above these conditions, 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		80 °C	105 °C	105 °C	125 °C	125 °C	125 °C	125 °C				
Feature code		B362	B325	B361	B324	B360	B348	B392				
Alternator data sheet number		330	312	312	311	311	311	311				
Voltage ranges		220/380 thru 254/440	110/190 thru 127/220 thru 220/380 thru 254/440	220/380 thru 254/440	110/190 thru 127/220 thru 220/380 thru 254/440	220/380 thru 254/440	240/415	120/208 thru 240/415				
Surge kW		835	832	832	825	828	828	828				
Motor starting kVA (at 90% sustained voltage)	Shunt											
	PMG	3375	2875	2875	2625	2625	2625	2625				

Full load current amps at standby rating	<u>110/220</u>	<u>110/190</u>	<u>115/200</u>	<u>115/230</u>	<u>120/208</u>	<u>120/240</u>	<u>127/220</u>	<u>220/380</u>	<u>230/400</u>	<u>240/415</u>	<u>254/440</u>
	2624	3038	2887	2510	2776	2406	2624	1519	1443	1391	1391

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

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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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