Generator Set Data Sheet

Model:	**DQGAM**
Frequency:	**50 Hz**
Fuel Type:	**Diesel**
kVA Rating:	**1825 Standby** **1650 Prime** **1425 Continuous**
Emissions Level:	**EPA NSPS Stationary Emergency Tier 2**

Exhaust emission data sheet:	**EDS-1144**
Exhaust emission compliance sheet:	**EPA-1109**
Sound performance data sheet:	**MSP-1132**
Cooling performance data sheet:	**MCP-226**
Prototype test summary data sheet:	**PTS-310**
Standard set-mounted radiator cooling outline:	**A042V080**
Optional set-mounted radiator cooling outline:	**A042V082**
Optional heat exchanger cooling outline:	**A043A395**
Optional remote radiator cooling outline:	**A042V084**

Fuel Consumption

	Standby				Prime				Continuous			
	kVA (kW)				kVA (kW)				kVA (kW)			
Ratings	1825 (1460)				1650 (1320)				1425 (1140)			
Load	**1/4**	**1/2**	**3/4**	**Full**	**1/4**	**1/2**	**3/4**	**Full**	**1/4**	**1/2**	**3/4**	**Full**
US gph	32.2	55.8	79.0	101.6	29.9	51.3	72.4	93.0	26.9	45.5	63.8	81.8
L/hr	121.8	211.4	299.0	383.6	113.1	194.4	274.0	352.0	101.9	172.4	241.6	309.6

Engine

	Standby rating	Prime rating	Continuous rating
Engine manufacturer	Cummins Inc.		
Engine model	QSK50-G7 NR2		
Configuration	Cast iron, V 16 cylinder		
Aspiration	Turbocharged and low temperature after-cooled		
Gross engine power output, kWm (bhp)	1581 (2120)	1421 (1905	1253 (1680)
BMEP at set rated load, kPa (psi)	2517 (365)	2261 (328)	1993 (289)
Bore, mm (in.)	159 (6.25)		
Stroke, mm (in.)	159 (6.25)		
Rated speed, rpm	1500		
Piston speed, m/s (ft/min)	7.9 (1562)		
Compression ratio	15:1		
Lube oil capacity, L (qt)	235 (248)		
Overspeed limit, rpm	1725		
Regenerative power, kW	116		

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Fuel Flow

Maximum fuel flow, L/hr (US gph)	840 (222)
Maximum fuel inlet restriction, kPa (in Hg)	16.9 (5)
Maximum fuel inlet temperature, ℃ (℉)	70 (160)

Air	Standby rating	Prime rating	Continuous rating
Combustion air, m^3/min (scfm)	125 (4400)	116 (4100)	109 (3860)
Maximum air cleaner restriction, kPa (in H_2O)	3.7 (15)		
Alternator cooling air, m^3/min (cfm)	161 (5700)		

Exhaust

Exhaust flow at set rated load, m^3/min (cfm)	322 (11355)	292 (10325)	273 (9650)
Exhaust temperature, ℃ (℉)	520 (960)	490 (915)	480 (895)
Maximum back pressure, kPa (in H_2O)	6.78 (27)		

Standard Set-Mounted Radiator Cooling

Ambient design, ℃ (℉)	40 (104)		
Fan load, kW_m (HP)	53.7 (72)		
Coolant capacity (with radiator), L (US gal)	401 (106)		
Cooling system air flow, m^3/min (scfm)	1722 (60809)		
Total heat rejection, MJ/min (Btu/min)	68.6 (65064)	63.6 (60267)	45 (42740)
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)		
Maximum fuel return line restriction kPa (in Hg)	34 (10)		

Optional Set-Mounted Radiator Cooling

Ambient design, ℃ (℉)	50 (122)		
Fan load, kW_m (HP)	45.5 (61)		
Coolant capacity (with radiator), L (US gal)	496 (131)		
Cooling system air flow, m^3/min (scfm)	2082 (73537)		
Total heat rejection, MJ/min (Btu/min)	68.6 (65064)	63.6 (60267)	45 (42740)
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)		
Maximum fuel return line restriction, kPa (in Hg)			

Optional Heat Exchanger Cooling

Set coolant capacity, L (US gal)	
Heat rejected, jacket water circuit, MJ/min (Btu/min)	
Heat rejected, aftercooler 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 at 27 ℃ (80 ℉) inlet temp, jacket water circuit, L/min (US gal/min)	
Minimum raw water flow at 27 ℃ (80 ℉) inlet temp, aftercooler circuit, L/min (US gal/min)	
Minimum raw water flow at 27 ℃ (80 ℉) inlet temp, fuel circuit, L/min (US gal/min)	
Raw water delta P at min flow, jacket water circuit, kPa (psi)	
Raw water delta P at min flow, aftercooler circuit, kPa (psi)	
Raw water delta P at min flow, fuel circuit, kPa (psi)	
Maximum jacket water outlet temp, ℃ (℉)	
Maximum aftercooler inlet temp, ℃ (℉)	
Maximum aftercooler inlet temp at 25 ℃ (77 ℉) ambient, ℃ (℉)	
Maximum fuel return line restriction, kPa (in Hg)	

Optional Remote Radiator Cooling[1]	Standby rating	Prime rating	Continuous rating
Set coolant capacity, L (US gal)			
Max flow rate at max friction head, jacket water circuit, L/min (US gal/min)	1574 (416)		
Max flow rate at max friction head, aftercooler circuit, L/min (US gal/min)	458 (121)		
Heat rejected, jacket water circuit, MJ/min (Btu/min)	40.85 (38720)	34.66 (32855)	28 (26670)
Heat rejected, aftercooler circuit, MJ/min (Btu/min)	24.42 (23150)	20.66 (19590)	17 (16070)
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)	12.7 (12024.3)	11.5 (10943.4)	10.1 (9553.7)
Maximum friction head, jacket water circuit, kPa (psi)	48 (7)		
Maximum friction head, aftercooler circuit, kPa (psi)	35 (5)		
Maximum static head, jacket water circuit, m (ft)	18.3 (60)		
Maximum static head, aftercooler circuit, m (ft)	18.3 (60)		
Maximum jacket water outlet temp, ℃ (℉)	104 (220)	100 (212)	100 (212)
Maximum aftercooler inlet temp at 25 ℃ (77 ℉) ambient, ℃ (℉)	49 (120)		
Maximum aftercooler inlet temp, ℃ (℉)	71 (160)	66 (150)	66 (150)
Maximum fuel flow, L/hr (US gph)			
Maximum fuel return line restriction, kPa (in Hg)			

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Weights[2]

Unit dry weight kgs (lbs)	11293 (24897)
Unit wet weight kgs (lbs)	11926 (26292)

Notes:

[1] For non-standard remote installations contact your local Cummins representative.

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

Derating Factors

Standby	Standard cooling system: Full rated power available up to 1100 m (3608 ft) at 40 ℃. Above these conditions, derates by 17.5% per 1000 m (3281 ft) and 16% per 10 ℃. Enhanced cooling system: Full rated power available up to 150 m (492 ft) at 50 ℃. Above these conditions derates by 16.3 % per 1000 m (3281 ft).
Prime	Standard cooling system: Full rated power available up to 1100 m (3608 ft) at 40 ℃. Above these conditions, derates by 17.5% per 1000 m (3281 ft) and 16% per 10 ℃. Enhanced cooling system: Full rated power available up to 150 m (492 ft) at 50 ℃. Above these conditions derates by 16.3% per 1000 m (3281 ft).
Continuous	Standard cooling system: Full rated power available up to 500 m (1640 ft) at 40 ℃. Above these conditions, derates by 20% per 1000 m (3281 ft) and 17% per 10 ℃. Enhanced cooling system: Derates by 9% at sea level at 50 ℃. Above these conditions, derates by 18% per 1000 m (3281 ft).

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. No sustained overload capability is available at this rating.

Alternator Data

Voltage	Connection[1]	Temp rise degrees C	Duty[2]	Single phase factor[3]	Max surge kVA[4]	Winding No.	Alternator data sheet	Feature code
380-440	Wye, 3-phase	125/105/80	S/P/C		4563	312	ADS-333	BA11-2
380-440	Wye, 3-phase	105/80/80	S/P/C		5000	312	ADS-334	BA09-2
380-440	Wye, 3-phase	80/80/80	S/P/C		5280	312	ADS-335	BA27-2
380	Wye, 3-phase	105	C		3960	312	ADS-332	BA01-2
400-415	Wye, 3-phase	105	C		3688	312	ADS-331	BA02-2
440	Wye, 3-phase	105	C		3960	312	ADS-332	BA01-2
400-415	Wye, 3-phase	125/105	P/C		3960	312	ADS-332	BA10-2
3300	Wye, 3-phase	105	C		4922	51	ADS-323	BA29-2
3300	Wye, 3-phase	105/80	P/C		5398	51	ADS-324	BA30-2
6300-6600	Wye, 3-phase	80/80/80	S/P/C		5250	61	ADS-521	BA47-2
11000	Wye, 3-phase	80/80/80	S/P/C		5196	83	ADS-521	BA46-2
380/440	Wye, 3-phase	125	C		3688	312	ADS-331	BA06-2

Notes:

[1] Limited single phase capability is available from some three phase rated configurations. To obtain single phase rating, multiply the three phase kW rating by the Single Phase Factor[3]. All single phase ratings are at unity power factor.

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

[3] Factor for the *Single-phase output from Three phase alternator* formula listed below.

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

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

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

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.