

Generator set data sheet



Model: DQKAA
Frequency: 60 Hz
Fuel type: Diesel
kW rating: 1750 Standby
 1600 Prime
Emissions: EPA NSPS stationary Emergency Tier 2

Exhaust emission data sheet:	EDS-1064
Exhaust emission compliance sheet:	EPA-1098
Sound performance data sheet:	
Cooling performance data sheet:	MCP-157
Prototype test summary data sheet:	PTS-267
Standard set-mounted radiator cooling outline:	A063L447
Optional set-mounted radiator cooling outline:	
Optional heat exchanger cooling outline:	
Optional remote radiator cooling outline:	A063H883

Fuel consumption	Standby				Prime				Continuous
	kW (kVA)				kW (kVA)				kW (kVA)
Ratings	1750 (2188)				1600 (2000)				
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	Full
US gph	44	69	94	121	42	65	89	112	
L/hr	167	261	356	458	159	246	337	424	

Engine	Standby rating	Prime rating	Continuous rating
Engine manufacturer	Cummins Inc.		
Engine model	QSK60-G6 NR2		
Configuration	Cast iron, V 16 cylinder		
Aspiration	Turbocharged and low temperature after-cooled		
Gross engine power output, kWm (bhp)	1905 (2554)	1702 (2282)	
BMEP at set rated load, kPa (psi)	2109 (306)	1885 (273)	
Bore, mm (in)	159 (6.25)		
Stroke, mm (in)	190 (7.48)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	11.4 (2244)		
Compression ratio	14.5:1		
Lube oil capacity, L (qt)	334 (304)		
Overspeed limit, rpm	2100 ±50		
Regenerative power, kW	207		

Fuel flow	
Maximum fuel flow, L/hr (US gph)	946 (250)
Maximum fuel inlet restriction, kPa (in Hg)	30 (9.0)
Maximum fuel inlet temperature, °C (°F)	71 (160)

Air	Standby rating	Prime rating	Continuous rating
Combustion air, m ³ /min (scfm)	156 (5563)	143 (5097)	
Maximum air cleaner restriction, kPa (in H ₂ O)	6.2 (25)		
Alternator cooling air, m ³ /min (cfm)	204 (7300)		

Exhaust

Exhaust flow at set rated load, m ³ /min (cfm)	379 (13518)	347 (12400)	
Exhaust temperature, °C (°F)	469 (877)	463 (866)	
Maximum back pressure, kPa (in H ₂ O)	6.8 (27)		

Standard set-mounted radiator cooling

Ambient design, °C (°F)	50 (122)		
Fan load, kWm (HP)	57 (77)		
Coolant capacity (with radiator), L (US gal)	492 (130)		
Cooling system air flow, m ³ /min (scfm)	1610 (56845)		
Total heat rejection, MJ/min (Btu/min)	81.05 (76875)	70.96 (67304)	
Maximum cooling air flow static restriction, kPa (in H ₂ O)	0.12 (0.5)		
Maximum fuel return line restriction kPa (in Hg)	34 (10)		

Optional set-mounted radiator cooling

Ambient design, °C (°F)			
Fan load, kWm (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)			
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 °C (80 °F) inlet temp, jacket water circuit, L/min (US gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, aftercooler circuit, L/min (US gal/min)			
Minimum raw water flow at 27 °C (80 °F) 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, °C (°F)			
Maximum aftercooler inlet temp, °C (°F)			
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)			
Maximum fuel return line restriction, kPa (in Hg)			

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)	1902 (502)		
Max flow rate at max friction head, aftercooler circuit, L/min (US gal/min)	606 (160)		
Heat rejected, jacket water circuit, MJ/min (Btu/min)	43.95 (41685)	40.4 (38312)	
Heat rejected, aftercooler circuit, MJ/min (Btu/min)	26.19 (24824)	20.84 (19755)	
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)	14.69 (13922)	13.57 (12863)	
Maximum friction head, jacket water circuit, kPa (psi)	69 (10)		
Maximum friction head, aftercooler circuit, kPa (psi)	48 (7)		
Maximum static head, jacket water circuit, m (ft)	18 (60)		
Maximum static head, aftercooler circuit, m (ft)	18 (60)		
Maximum jacket water outlet temp, °C (°F)	104 (220)	100 (212)	
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)	49 (120)		
Maximum aftercooler inlet temp, °C (°F)	49 (120)		
Maximum fuel flow, L/hr (US gph)			
Maximum fuel return line restriction, kPa (in Hg)	30 (9.0)		

Weights²

Unit dry weight, kgs (lbs)	15066 (33215)
Unit wet weight, kgs (lbs)	15605 (34403)

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	Standby engine power available up to 1402m (4600 ft) at ambient temperatures up to 40°C (104 °F). Above these elevations, derate at 4.5% per 305m (1000ft) and 11.0% per 10°C (18 °F).
Prime	Prime engine power available up to 1402m (4600 ft) at ambient temperatures up to 40°C (104 °F). Above these elevations, derate at 4.5% per 305m (1000ft) and 11% per 10°C (18 °F).
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.

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	Wye, 3-phase	150/125/105	S/P/C		7327	312	ADS-335	B595
380	Wye, 3-phase	125/105/80	S/P/C		7327	13	ADS-515	B598
380	Wye, 3-phase	125/105	P/C		7327	312	ADS-334	B596
380	Wye, 3-phase	105/80	P/C		7327	312	ADS-335	B659
380	Wye, 3-phase	105/80	S/P		7327	13	ADS-515	B599
380	Wye, 3-phase	80	S		7963	13	ADS-515	B660
416	Wye, 3-phase	105/80	S/P		9719	12	ADS-517	B715
440	Wye, 3-phase	105/80	S/P		7361	312	ADS-334	B664
440	Wye, 3-phase	125/105/80	S/P/C		7361	312	ADS-333	B663
480	Wye, 3-phase	125/105/80	S/P/C		7361	312	ADS-333	B462
480	Wye, 3-phase	105/80	S/P		7695	312	ADS-334	B463
480	Wye, 3-phase	125/105	P/C		6716	312	ADS-332	B464
480	Wye, 3-phase	105	S		7695	19	ADS-517	B796
480	Wye, 3-phase	80	S		7361	312	ADS-334	B601
480	Wye, 3-phase	80	P		7361	312	ADS-334	B694
600	Wye, 3-phase	125/105/80	S/P/C		7361	07	ADS-333	B465
600	Wye, 3-phase	105/80	S/P		7695	07	ADS-334	B301
600	Wye, 3-phase	125/105	P/C		6716	07	ADS-332	B466
600	Wye, 3-phase	80	S		7265	07	ADS-334	B604
4160	Wye, 3-phase	125/105/80	S/P/C		6307	51	ADS-324	B467
4160	Wye, 3-phase	105	S		6307	51	ADS-324	B491
4160	Wye, 3-phase	105	S		6307	51	ADS-520	B795
4160	Wye, 3-phase	105/80	S/P		6307	51	ADS-518	B935
4160	Wye, 3-phase	80	S		6307	51	ADS-518	B937
12470-13800	Wye, 3-phase	125/105/80	S/P/C		6062	91	ADS-521	B448
12470	Wye, 3-phase	105/80	S/P		6062	91	ADS-521	B447
12470	Wye, 3-phase	80	S		6685	87	ADS-521	B607
13200-13800	Wye, 3-phase	80	S		8012	91	ADS-521	B628
13800	Wye, 3-phase	105	S		6062	99	ADS-523	B797

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 Factor³. All single phase ratings are at unity power factor.

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

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.

For more information contact your local Cummins distributor or visit power.cummins.com

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