

## Generator set data sheet



<b>Model:</b>	<b>DQKAE</b>
<b>Frequency:</b>	<b>60 Hz</b>
<b>Fuel type:</b>	<b>Diesel</b>
<b>kW rating:</b>	<b>2000 Standby</b> <b>1825 Prime</b> <b>1600 Continuous</b>
<b>Emissions level:</b>	<b>EPA NSPS Stationary Emergency Tier 2</b>

Exhaust emission data sheet:	EDS-1119
Exhaust emission compliance sheet:	EPA-1165
Sound performance data sheet:	MSP-1133
Cooling performance data sheet:	MCP-207
Prototype test summary data sheet:	PTS-308
Standard set-mounted radiator cooling outline:	A034T734
Optional set-mounted radiator cooling outline:	A034H896
Optional heat exchanger cooling outline:	A034H896
Optional remote radiator cooling outline:	A034U921

Fuel consumption	Standby				Prime				Continuous			
	kW (kVA)				kW (kVA)				kW (kVA)			
Ratings	2000 (2500) †				1825 (2281)				1600 (2000)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
US gph	46	78.2	106.2	140.7	43.2	72.4	98.4	125.5	40.8	64.9	88.7	110.8
L/hr	174	296	402	532.5	163.5	274	372.4	475	154.4	245.6	335.7	419.4

†DCC available at standby power subject to Cummins' site-specific assessment. Please contact your Cummins Distributor.

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)	2179 (2922)	1974 (2647)	1740 (2332)
BMEP at set rated load, kPa (psi)	2420 (351)	2193 (318)	1931 (280)
Bore, mm (in.)	159 (6.25)		
Stroke, mm (in.)	190 (7.48)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	11.4 (2243)		
Compression ratio	14.5:1		
Lube oil capacity, L (qt)	261 (276)	378 (400)	378 (400)
Overspeed limit, rpm	2070		
Regenerative power, kW	207		

<b>Fuel flow</b>	<b>Standby rating</b>	<b>Prime rating</b>	<b>Continuous rating</b>
Maximum fuel flow, L/hr (US gph)	1105 (292)		
Maximum fuel inlet restriction, kPa (in Hg)	16.9 (5)		
Maximum fuel inlet temperature, °C (°F)	71 (160)		

### **Air**

Combustion air, m <sup>3</sup> /min (scfm)	178 (6295)	159 (5615)	150 (5290)
Maximum air cleaner restriction, kPa (in H <sub>2</sub> O)	3.7 (15)		
Alternator cooling air, m <sup>3</sup> /min (cfm)	222 (7840)		

### **Exhaust**

Exhaust flow at set rated load, m <sup>3</sup> /min (cfm)	439 (15515)	387 (13667)	352 (12424)
Exhaust temperature, °C (°F)	481 (897)	469 (877)	456 (853)
Maximum back pressure, kPa (in H <sub>2</sub> O)	6.7 (27)		

### **Standard set-mounted radiator cooling**

Ambient design, °C (°F)	46.3 (115.3)		
Fan load, kW <sub>m</sub> (HP)	46 (61)		
Coolant capacity (with radiator), L (US gal)	538 (142)		
Cooling system air flow, m <sup>3</sup> /min (scfm)	2094 (73937)		
Total heat rejection, MJ/min (Btu/min)	87.1 (82593)	76.3 (72341)	67.3 (63764)
Maximum cooling air flow static restriction, kPa (in H <sub>2</sub> O)	0.12 (0.5)		
Maximum fuel return line restriction kPa (in Hg)	34 (10)		

### **Optional set-mounted radiator cooling**

Ambient design, °C (°F)	50.6 (123.1)		
Fan load, kW <sub>m</sub> (HP)	66 (88)		
Coolant capacity (with radiator), L (US gal)	606 (160)		
Cooling system air flow, m <sup>3</sup> /min (scfm)	2649 (93550)		
Total heat rejection, MJ/min (Btu/min)	89.7 (85065)	83.2 (78876)	72.7 (68912)
Maximum cooling air flow static restriction, kPa (in H <sub>2</sub> O)	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 °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)	

Optional remote radiator cooling <sup>1</sup>	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)	1900 (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)	38.6 (36583)	36.3 (34432)	33.5 (31737)
Heat rejected, aftercooler circuit, MJ/min (Btu/min)	35.1 (33302)	28 (26507)	23 (21813)
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)	12.9 (12186)	11.5 (10880)	10.2 (9692)
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)	100 (212)
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)	49 (120)		
Maximum aftercooler inlet temp, °C (°F)	71 (160)	71 (160)	71 (160)
Maximum fuel flow, L/hr (US gph)			
Maximum fuel return line restriction, kPa (in Hg)			

## Weights<sup>2</sup>

Unit dry weight kgs (lbs)	17377 (38309)
Unit wet weight kgs (lbs)	17904 (39470)

### Notes:

<sup>1</sup> For non-standard remote installations contact your local Cummins representative.

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

## Derating factors

<b>Standby</b>	<p><u>Standard cooling system:</u> Full rated power available up to 750 m (2461 ft) at ambient temperatures up to 40°C (104°F). For higher altitudes, derate by 4.5% per 305 m (1000 ft). For temperatures over 40°C, derate by 9.5% per 10°C (18°F).</p> <p><u>Enhanced cooling system:</u> Full rated power available up to 640 m (2100 ft) at ambient temperatures up to 40°C (104°F). For higher altitudes, derate by 9.6% per 305 m (1000 ft). For ambient temperatures between 40°C and 50°C, apply altitude derate at 40°C and 50°C and interpolate for ambient temperature derate. At 50°C (122°F) ambient temperatures, full rated power available up to 250 m (820 ft). For higher altitudes, derate by 8.5% per 305 m (1000 ft). For temperatures over 50°C, derate by 12.0% per 10°C (18°F).</p>
<b>Prime</b>	<p><u>Standard cooling system:</u> Full rated power available up to 120 m (394 ft) at ambient temperatures up to 40°C (104°F). For higher altitudes, derate by 4.0% per 305 m (1000 ft). For temperatures over 40°C, derate by 11.1% per 10°C (18°F).</p> <p><u>Enhanced cooling system:</u> Full rated power available up to 950 m (3118 ft) at ambient temperatures up to 40°C (104°F). For higher altitudes, derate by 10.2% per 305 m (1000 ft). For ambient temperatures between 40°C and 50°C, apply altitude derate at 40°C and 50°C and interpolate for ambient temperature derate. At 50°C (122°F) ambient temperatures, derate by 1.3% at sea level. For higher altitudes, derate by 3.8% per 305 m (1000 ft). For temperatures over 50°C, derate by 10.0% per 10°C (18°F).</p>
<b>Continuous</b>	<p><u>Standard cooling system:</u> Full rated power available up to 50 m (164 ft) at ambient temperatures up to 40°C (104°F). For higher altitudes, derate by 4.6% per 305 m (1000 ft). For temperatures over 40°C, derate by 11.3% per 10°C (18°F).</p> <p><u>Enhanced cooling system:</u> Full rated power available up to 520 m (1707 ft) at ambient temperatures up to 40°C (104°F). For higher altitudes, derate by 5.4% per 305 m (1000 ft). For ambient temperatures between 40°C and 50°C, apply altitude derate at 40°C and 50°C and interpolate for ambient temperature derate. At 50°C (122°F) ambient temperatures, derate by 4.4% at sea level. For higher altitudes, derate by 5.3% per 305 m (1000 ft). For temperatures over 50°C, derate by 12.0% per 10°C (18°F).</p>

## 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 data shown above represents gross engine performance and capabilities as per ISO 3046-1, obtained and corrected in accordance with ISO 15550	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 3046-1, obtained and corrected in accordance with ISO 15550.	Applicable for supplying power continuously to a constant load up to the full output rating for unlimited hours. No sustained overload capability is available for this rating. Consult authorized distributor for rating. (Equivalent to Continuous Power in accordance with ISO 8528 and ISO 3046-1, obtained and corrected in accordance with ISO 15550). This rating is not applicable to all generator set models.

## Alternator data

Voltage	Connection <sup>1</sup>	Temp rise degrees C	Duty <sup>2</sup>	Single phase factor <sup>3</sup>	Max surge kVA <sup>4</sup>	Winding No.	Alternator data sheet	Frame size	Feature code
380	Wye, 3-phase	150/125/105	S/P/C		7333	13	ADS-515	LVSI804R	B595-2
380	Wye, 3-phase	125/105/80	S/P/C		7333	13	ADS-515	LVSI804R	B598-2
380	Wye, 3-phase	105/80	S/P		7333	13	ADS-515	LVSI804R	B599-2
380	Wye, 3-phase	80	S		7944	13	ADS-516	LVSI804S	B660-2
416	Wye, 3-phase	105/80	S/P		8412	12	ADS-516	LVSI804S	B715-2
440	Wye, 3-phase	125/105/80	S/P/C		7361	312	ADS-334	P734F	B663-2
440	Wye, 3-phase	105	S		7267	12	ADS-515	LVSI804R	B665-2
440	Wye, 3-phase	80	S		9719	12	ADS-517	LVSI804T	B688-2
480	Wye, 3-phase	105/80	S/P		7695	312	ADS-335	P734G	B600-2
480	Wye, 3-phase	80	S		8412	12	ADS-516	LVSI804S	B601-2
480	Wye, 3-phase	125/105/80	S/P/C		7361	312	ADS-334	P734F	B801-2
480	Wye, 3-phase	150	S		7361	312	ADS-334	P734F	B816-2
480	Wye, 3-phase	80	S/P		9719	12	ADS-517	LVSI804T	B903-2
600	Wye, 3-phase	125/105/80	S/P/C		7361	7	ADS-334	P734F	B602-2
600	Wye, 3-phase	105/80	S/P		7695	7	ADS-335	P734G	B603-2
600	Wye, 3-phase	80	S		8189	7	ADS-516	LVSI804S	B604-2
600	Wye, 3-phase	150	S		7361	7	ADS-334	P734F	B817-2
4160	Wye, 3-phase	105/80	S/P		6335	51	ADS-518	MVSI804R	B313-2
4160	Wye, 3-phase	125/105/80	S/P/C		6335	51	ADS-518	MVSI804R	B467-2
4160	Wye, 3-phase	80	S/P		8752	51	ADS-520	MVSI804T	B905-2
12470	Wye, 3-phase	125/105/80	S/P/C		5948	91	ADS-521	HVSI804R	B448-2
12470	Wye, 3-phase	105/80	S/P		6007	87	ADS-521	HVSI804R	B567-2
12470	Wye, 3-phase	80	S		6670	87	ADS-522	HVSI804S	B607-2
12470	Wye, 3-phase	80	S/P		7993	91	ADS-523	HVSI804T	B906-2
13200	Wye, 3-phase	105/80	S/P		6800	91	ADS-522	HVSI804S	B806-2
13200	Wye, 3-phase	80	S		7993	91	ADS-523	HVSI804T	B628-2
13200	Wye, 3-phase	80	S/P		7993	91	ADS-523	HVSI804T	B907-2
13200	Wye, 3-phase	125/105/80	S/P/C		5948	91	ADS-521	HVSI804R	B448-2
13800	Wye, 3-phase	105/80	S/P		5948	91	ADS-521	HVSI804R	B500-2
13800	Wye, 3-phase	80	S		7993	91	ADS-523	HVSI804T	B628-2
13800	Wye, 3-phase	80	S/P		7993	91	ADS-523	HVSI804T	B909-2
13800	Wye, 3-phase	125/105/80	S/P/C		5948	91	ADS-521	HVSI804R	B448-2

**Notes:**

- <sup>1</sup> 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<sup>3</sup>. All single phase ratings are at unity power factor.
- <sup>2</sup> Standby (S), Prime (P) and Continuous ratings (C).
- <sup>3</sup> Factor for the *single phase output from three phase alternator* formula listed below.
- <sup>4</sup> Maximum rated starting kVA that results in a minimum of 90% of rated sustained voltage during starting.
- <sup>5</sup> Derate may be applicable. Please consult the factory for details.

**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**

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

**For more information contact your local Cummins distributor  
or visit [power.cummins.com](http://power.cummins.com)**

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