



| Fuel Consumption (ISO3046/1) | 100% of Rated Load | 90% of Rated Load | 75% of Rated Load | 50% of Rated Load |
|---|--------------------|-------------------|-------------------|-------------------|
| Fuel Consumption (LHV) ISO3046/1, kW (MMBTU/h) ^{1,2,3,4} | 2962 (10.11) | 2694 (9.20) | 2293 (7.8) | 1642 (5.6) |
| Mechanical Efficiency ISO3046/1, percent ^{1,2,4} | 40.7% | 40.3% | 39.5% | 36.8% |
| Electrical Efficiency ISO3046/1, percent ^{1,2,3,4} | 39.2% | 38.7% | 37.9% | 35.3% |
| Thermal Efficiency ISO3046/1, percent ^{2,3,4,11} | 57.7% | 58.0% | 58.4% | 60.5% |

Engine Data

| | |
|---|------------------------|
| Engine Manufacturer | Cummins |
| Engine Model | QSK60G – V16 |
| Fuel Type | Natural Gas (Pipeline) |
| Displacement, L (cu.in) | 60 (3683) |
| Aspiration | Turbocharged |
| Gross Engine Power Output, kWm (hp) | 1207 (1619) |
| Compression Ratio | 11.4:1 |
| Bore, mm (in) | 159 (6.26) |
| Stroke, mm (in) | 190 (7.48) |
| Rated Speed, rpm | 1500 |
| Lube Oil Capacity, L (gal) | 379 (100) |
| Full Load Lubricating oil consumption, g/kWe-hr (g/hp-hr) | 0.15 (0.11) |
| Electric starter voltage, volts | 24 |

Fuel System

| | |
|---|------------|
| Gas supply pressure to engine inlet, bar (psi) ⁴ | 0.20 (2.9) |
| Min. Methane Index | 61 |

Methane Number Capability

| Load (Percent of Rated) | | | |
|-------------------------|-----|-----|-----|
| 100% | 90% | 75% | 50% |
| 61 | 48 | 38 | 38 |

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Genset Dimensions – Open

| | |
|--|---------------|
| Genset Length, m (ft) ⁵ | 5.0 (16.39) |
| Genset Width, m (ft) ⁵ | 2.33 (7.64) |
| Genset Height, m (ft) ⁵ | 2.97 (9.75) |
| Genset Weight (wet), kg (lbs) ⁵ | 13924 (30697) |

Notes:

1. At ISO3046 reference conditions, altitude 1013 mbar (30 in Hg), air inlet temperature 25°C (77°F).
2. According to ISO 3046/I with fuel consumption tolerance of +5% -0%.
3. With air intake at 25°C (77°F). Tolerance $\pm 5^\circ\text{F}$.
4. Tested using pipeline natural gas with LHV of 33.44 MJ/Nm³ (905 BTU/ft³).
5. Weights and set dimensions are just for reference only.

Energy Data

| | 100% of Rated Load | 90% of Rated Load | 75% of Rated Load | 50% of Rated Load |
|---|--------------------|-------------------|-------------------|-------------------|
| Continuous Shaft Power, kWm (bhp) ^{1,2} | 1207 (1619) | 1086 (1457) | 905 (1214) | 604 (810) |
| Continuous Generator Electrical Output kWe@1.0pf ¹ | 1160 | 1044 | 870 | 580 |
| Total Heat Rejected in LT Circuit, kW (BTU/min) ³ | 103 (5853) | 95.8 (5444) | 85 (4841) | 68 (3868) |
| Total Heat Rejected in HT Circuit, kW (BTU/min) ³ | 686 (39067) | 619.5 (35280) | 520 (29620) | 382 (21747) |
| Heat Radiated to Ambient, kW (BTU/min) ⁴ | 125 (7109) | 117.4 (6677) | 106 (6028) | 87 (4948) |
| Available Exhaust heat, 105°C kW (BTU/min) ³ | 920 (52319) | 848 (48224) | 733 (41684) | 544 (30936) |

Intake Air Flow

| | 100% of Rated Load | 90% of Rated Load | 75% of Rated Load | 50% of Rated Load |
|--|--------------------|-------------------|-------------------|-------------------|
| Intake Air Flow, ft ³ /min (L/s) ⁵ | 3612 (1705) | 3233 (1526) | 2667 (1259) | 1826 (862) |

Exhaust Air Flow

| | 100% of Rated Load | 90% of Rated Load | 75% of Rated Load | 50% of Rated Load |
|--|--------------------|-------------------|-------------------|-------------------|
| Exhaust Gas Flow, ft ³ /min (L/s) ⁵ | 8531 (4026) | 7845 (3702) | 6818 (3217) | 4928 (2326) |
| Exhaust Gas Flow, kg/s (lb/h) ⁵ | 1.94 (15397) | 1.75 (13889) | 1.47 (11667) | 1.02 (8095) |
| Exhaust Temperature After Turbine, °C (°F) ⁶ | 469 (876) | 482 (900) | 491 (916) | 508 (946) |
| Max Exhaust System Back Pressure, in-Hg (kPa) ^{6,7} | 1.5 (5.1) | 1.5 (5.1) | 1.5 (5.1) | 1.5 (5.1) |

HT Cooling Circuit

| | 100% of Rated Load | 90% of Rated Load | 75% of Rated Load | 50% of Rated Load |
|--|--------------------|-------------------|-------------------|-------------------|
| HT Circuit Engine Coolant Volume, l (gal) | 181.7 (48) | 181.7 (48) | 181.7 (48) | 181.7 (48) |
| HT Coolant Flow @ Max Ext Restriction, m ³ /h (gal/min) | 70 (310) | 70 (310) | 70 (310) | 70 (310) |
| Max HT Engine Coolant Inlet Temp, °C (°F) Reference ⁸ | 80 (176) | 80 (176) | 80 (176) | 80 (176) |
| HT Coolant Outlet Temp, °C (°F) ⁸ | 90 (194) | 90 (194) | 90 (194) | 90 (194) |
| Max Pressure Drop in External HT Circuit, kPa (psi) | 101 (14.7) | 101 (14.7) | 101 (14.7) | 101 (14.7) |
| Max Static Hd of Coolant Above Crst. Centerline, ft (m) | 16.4 (5) | 16.4 (5) | 16.4 (5) | 16.4 (5) |

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LT Cooling Circuit

| | 100% of Rated Load | 90% of Rated Load | 75% of Rated Load | 50% of Rated Load |
|--|--------------------|-------------------|-------------------|-------------------|
| LT Circuit Engine Coolant Volume, l (gal) | 34 (9) | 34 (9) | 34 (9) | 34 (9) |
| LT Coolant Flow @ Max Ext Restriction, m ³ /h (gal/min) | 23 (100) | 23 (100) | 23 (100) | 23 (100) |
| Max LT Coolant Inlet Temperature °C (°F) ⁹ | 40 (104) | 40 (104) | 40 (104) | 40 (104) |
| LT Coolant Outlet Temperature °C (°F) ⁹ | 44 (111) | 44 (111) | 44 (111) | 44 (111) |
| Max Pressure Drop in External LT Circuit, kPa (psi) | 101 (14.7) | 101 (14.7) | 101 (14.7) | 101 (14.7) |
| Max Static Hd. of Coolant Above Crsht Centerline, ft (m) | 16.4 (5) | 16.4 (5) | 16.4 (5) | 16.4 (5) |

Emissions

| | 100% of Rated Load | 90% of Rated Load | 75% of Rated Load | 50% of Rated Load |
|---|--------------------|-------------------|-------------------|-------------------|
| NO _x emissions, mg/Nm ³ @ 5% O ₂ (g/hp-h) ⁷ | 489 (1.06) | 475 (1.04) | 505 (1.13) | 483 (1.15) |
| CO Emissions Rate mg/Nm ³ @5%O ₂ (g/hp-h) ⁸ | 676 (1.47) | 671 (1.47) | 650 (1.45) | 633 (1.51) |
| THC Exhaust Emissions, mg/Nm ³ @ 5% O, (g/hp-h) ⁸ | 1330 (2.91) | 1352 (2.99) | 1316 (2.97) | 1371 (3.29) |

Alternator Data ¹⁰

| | |
|-----------------------------------|-----------------|
| Manufacturer | Mecc Alte |
| Alternator Made and Model | ECO 46-1.5S/4 A |
| Frequency (Hz) | 50 |
| Power (kVA) | 1480 |
| Voltage (V) | 400 |
| Phase 3 | 3 |
| A.V.R. | DER1 |
| Voltage Regulation | (+/-)0.5% |
| Insulation System | H |
| Temperature Rise | F |
| Protection | IP23 |
| Weight comp. Generator (kg) | 3380 |
| Cooling Air (m ³ /min) | 135 |

Notes:

1. With engine driven coolant pump.
2. At ISO3046 reference conditions, altitude 1013 mbar (30 in Hg), air inlet temperature 25°C (77°F).
3. Production variation/tolerance ±10%.
4. Tolerance +/- 15%.
5. According to ISO 3046/I with fuel consumption tolerance of +5% -0%.
6. With air intake at 25°C (77°F). Tolerance ± 5°F
7. Exhaust system back pressure is a rated load and will decrease at lower loads.
8. Outlet temperature controlled by thermostat, inlet temperature for reference only.
9. Inlet temperature controlled by thermostat, outlet temperature for reference only.
10. Continuous (C)
11. Exhaust gas cooled to 105 °C.

Continuous rating definition

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 ISO8528, ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.

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