

Generator set data sheet



Model: GGHJ
kW rating: 125 natural gas Standby
 125 propane Standby
Frequency: 60 Hz
Fuel type: Natural gas/propane

| | |
|--|----------|
| Exhaust emission data sheet: | EDS-1148 |
| Exhaust emission compliance sheet: | EPA-1216 |
| Sound performance data sheet: | |
| Cooling performance data sheet: | MCP-236 |
| Prototype test summary data sheet: | PTS-312 |
| Standard set-mounted radiator cooling outline: | A035N940 |

Fuel consumption

| Ratings | Natural gas | | | | | | | | Propane | | | | Prime | | | |
|--------------------|------------------|-------|--------|--------|----------------|-----|-----|------|------------------|-------|-------|-------|----------------|-----|-----|------|
| | Standby kW (kVA) | | | | Prime kW (kVA) | | | | Standby kW (kVA) | | | | Prime kW (kVA) | | | |
| | 125 (156) | | | | | | | | 125 (156) | | | | | | | |
| Load | 1/4 | 1/2 | 3/4 | Full | 1/4 | 1/2 | 3/4 | Full | 1/4 | 1/2 | 3/4 | Full | 1/4 | 1/2 | 3/4 | Full |
| scfh | 566.5 | 866.4 | 1194.8 | 1566.1 | | | | | 228.8 | 351.8 | 480.1 | 658.0 | | | | |
| m ³ /hr | 16.0 | 24.5 | 33.8 | 44.4 | | | | | 6.5 | 10.0 | 13.6 | 18.6 | | | | |

| Engine | Natural gas | | Propane | |
|--------------------------------------|--------------------------|--------------|----------------|--------------|
| | Standby rating | Prime rating | Standby rating | Prime rating |
| Engine model | WSG-1068 | | | |
| Configuration | Cast iron, V 10 cylinder | | | |
| Aspiration | Turbocharged | | | |
| Gross engine power output, kWm (bhp) | 141.9 (190.2) | | 144.7 (194.0) | |
| BMEP at rated load, kPa (psi) | 1399.6 (203.0) | | 1427.2 (207.0) | |
| Bore, mm (in) | 90.2 (3.55) | | 90.2 (3.55) | |
| Stroke, mm (in) | 105.9 (4.17) | | 105.9 (4.17) | |
| Rated speed, rpm | 1800 | | 1800 | |
| Piston speed, m/s (ft/min) | 6.4 (1250.0) | | 6.4 (1250.0) | |
| Compression ratio | 9.0:1 | | 9.0:1 | |
| Lube oil capacity, L (qt) | 6.1 (6.5) | | 6.1 (6.5) | |
| Overspeed limit, rpm | 2400 ± 50 | | 2400 ± 50 | |
| Regenerative power, kW | 16.00 | | 16.00 | |

Fuel flow

| | | | | |
|---|------------|--|------------|--|
| Minimum operating pressure, kPa (in H ₂ O) | 1.7 (7.0) | | 1.7 (7.0) | |
| Maximum operating pressure, kPa (in H ₂ O) | 3.4 (13.6) | | 3.4 (13.6) | |

| Air | Natural gas | | Propane | |
|--|-----------------------|---------------------|-----------------------|---------------------|
| | Standby rating | Prime rating | Standby rating | Prime rating |
| Combustion air, m ³ /min (scfm) | 7.9 (277.5) | | 7.2 (255) | |
| Maximum air cleaner restriction, kPa (in H ₂ O) | 1.2 (5.0) | | 1.2 (5.0) | |
| Alternator cooling air, m ³ /min (scfm) | 37.0 (1308.0) | | 37.0 (1308.0) | |

Exhaust

| | | | | |
|--|-------------|--|-------------|--|
| Exhaust flow at rated load, m ³ /min (cfm) | 29.7 (1050) | | 30.3 (1071) | |
| Exhaust temperature, °C (°F) | 505 (937.7) | | 513 (953.3) | |
| Maximum back pressure, kPa (in H ₂ O) | 6.2 (25.0) | | 6.2 (25.0) | |
| Available back pressure for additional sound attenuation and piping, kPa (in H ₂ O) | 2.5 (10.0) | | 2.5 (10.0) | |

Standard set-mounted radiator cooling

| | | | | |
|--|---------------|--|---------------|--|
| Ambient design, °C (°F) | 40 (104) | | 40 (104) | |
| Fan load, kW (HP) | 15.7 (21) | | 15.7 (21) | |
| Coolant capacity (with radiator), L (US gal) | 33.1 (8.8) | | 33.0 (8.8) | |
| Coolant system air flow, m ³ /min (scfm) | 342.3 (12100) | | 342.3 (12100) | |
| Total heat rejection, MJ/min (Btu/min) | 7.66 (7200.6) | | 7.66 (7200.6) | |
| Maximum cooling air flow static restriction, kPa (in H ₂ O) | 0.124 (0.5) | | 0.124 (0.5) | |

Weights²

| | |
|---------------------------|-------------|
| Unit dry weight kgs (lbs) | TBD |
| Unit wet weight kgs (lbs) | 1225 (2700) |

Notes:

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

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

Alternator data

| Natural gas three phase table ¹ | | 105 °C | 105 °C | 105 °C | 105 °C | 125 °C | 125 °C | 125 °C | 125 °C | 150 °C | 150 °C | 150 °C |
|---|-------|---|---------|---|---|---|---|---|---------|---|---|---------|
| Feature code | | B268-2 | B304-2 | B415-2 | B418-2 | B267-2 | B414-2 | B417-2 | B303-2 | B413-2 | B416-2 | B419-2 |
| Alternator data sheet number | | 211 | 209 | 210 | 210 | 211 | 209 | 209 | 208 | 208 | 208 | 208 |
| Voltage ranges | | 120/208 thru 139/240 240/416 thru 277/480 | 347/600 | 120/208 thru 139/240 240/416 thru 277/480 | 110/190 thru 120/208 220/380 thru 240/416 | 120/208 thru 139/240 240/416 thru 277/480 | 120/208 thru 139/240 240/416 thru 277/480 | 110/190 thru 120/208 220/380 thru 240/416 | 347/600 | 120/208 thru 139/240 240/416 thru 277/480 | 110/190 thru 120/208 220/380 thru 240/416 | 347/600 |
| Surge kW | | 142 | 141 | 140 | 141 | 142 | 140 | 140 | 140 | 138 | 139 | 140 |
| Motor starting kVA (at 90% sustained voltage) | Shunt | 672 | 516 | 563 | 563 | 672 | 516 | 516 | 422 | 422 | 422 | 422 |
| | PMG | 791 | 607 | 663 | 663 | 791 | 607 | 607 | 497 | 497 | 497 | 497 |

| | | | | | | | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|--|--|--|--|
| Full load current amps at Standby rating | <u>120/208</u> 433 | <u>127/220</u> 409 | <u>139/240</u> 375 | <u>220/380</u> 237 | <u>240/416</u> 217 | <u>277/480</u> 188 | <u>347/600</u> 150 | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|--|--|--|--|

| Propane three phase table ¹ | | 105 °C | 105 °C | 105 °C | 105 °C | 125 °C | 125 °C | 125 °C | 125 °C | 150 °C | 150 °C | 150 °C |
|---|-------|---|---------|---|---|---|---|---|---------|---|---|---------|
| Feature code | | B268-2 | B304-2 | B415-2 | B418-2 | B267-2 | B414-2 | B417-2 | B303-2 | B413-2 | B416-2 | B419-2 |
| Alternator data sheet number | | 211 | 209 | 210 | 210 | 211 | 209 | 209 | 208 | 208 | 208 | 208 |
| Voltage ranges | | 120/208 thru 139/240 240/416 thru 277/480 | 347/600 | 120/208 thru 139/240 240/416 thru 277/480 | 110/190 thru 120/208 220/380 thru 240/416 | 120/208 thru 139/240 240/416 thru 277/480 | 120/208 thru 139/240 240/416 thru 277/480 | 110/190 thru 120/208 220/380 thru 240/416 | 347/600 | 120/208 thru 139/240 240/416 thru 277/480 | 110/190 thru 120/208 220/380 thru 240/416 | 347/600 |
| Surge kW | | 149 | 149 | 148 | 149 | 149 | 148 | 148 | 148 | 146 | 147 | 148 |
| Motor starting kVA (at 90% sustained voltage) | Shunt | 672 | 516 | 563 | 563 | 672 | 516 | 516 | 422 | 422 | 422 | 422 |
| | PMG | 791 | 607 | 663 | 663 | 791 | 607 | 607 | 497 | 497 | 497 | 497 |

| | | | | | | | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|--|--|--|--|
| Full load current amps at Standby rating | <u>120/208</u> 433 | <u>127/220</u> 409 | <u>139/240</u> 375 | <u>220/380</u> 237 | <u>240/416</u> 217 | <u>277/480</u> 188 | <u>347/600</u> 150 | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|--|--|--|--|

| Natural gas single phase table | | 105 °C | 105 °C | 105 °C | 105 °C | 125 °C | 125 °C | 125 °C | 125 °C | | | |
|---|-------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|--|--|--|
| Feature code | | B268-2 | B274-2 | B415-2 | B418-2 | B267-2 | B273-2 | B414-2 | B417-2 | | | |
| Alternator data sheet number | | 211 | 210 | 210 | 210 | 211 | 209 | 209 | 209 | | | |
| Voltage ranges | | 120/240 | 110/220 thru 120/240 | 120/240 | 110/220 thru 120/240 | 120/240 | 110/220 thru 120/240 | 120/240 | 110/220 thru 120/240 | | | |
| Surge kW | | 134 | 130 | 131 | TBD | 134 | 129 | 131 | TBD | | | |
| Motor starting kVA (at 90% sustained voltage) | Shunt | 672 | 563 | 563 | 563 | 672 | 516 | 516 | 516 | | | |
| | PMG | 791 | 663 | 663 | 663 | 791 | 607 | 607 | 607 | | | |

| | | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--|--|--|--|--|--|--|--|--|--|
| Full load current amps at Standby rating | <u>120/240²</u> 346 | <u>120/240³</u> 521 | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--|--|--|--|--|--|--|--|--|--|

| Propane single phase table | | 105 °C | 105 °C | 105 °C | 105 °C | 125 °C | 125 °C | 125 °C | 125 °C | | | |
|---|-------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|--|--|--|
| Feature code | | B268-2 | B274-2 | B415-2 | B418-2 | B267-2 | B273-2 | B414-2 | B417-2 | | | |
| Alternator data sheet number | | 211 | 210 | 210 | 210 | 211 | 209 | 209 | 209 | | | |
| Voltage ranges | | 120/240 | 110/220 thru 120/240 | 120/240 | 110/220 thru 120/240 | 120/240 | 110/220 thru 120/240 | 120/240 | 110/220 thru 120/240 | | | |
| Surge kW | | 141 | 137 | 139 | TBD | 141 | 136 | 138 | TBD | | | |
| Motor starting kVA (at 90% sustained voltage) | Shunt | 672 | 563 | 563 | 563 | 672 | 516 | 516 | 516 | | | |
| | PMG | 791 | 663 | 663 | 663 | 791 | 607 | 607 | 607 | | | |

| | | | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--|--|--|--|--|--|--|--|--|--|
| Full load current amps at Standby rating | <u>120/240²</u> 346 | <u>120/240³</u> 521 | | | | | | | | | | |
|--|-----------------------------------|-----------------------------------|--|--|--|--|--|--|--|--|--|--|

Notes:

1. Single phase power can be taken from a three phase generator set at up to 2/3 set rated 3-phase kW at 1.0 power factor. Also see Note 3 below.
2. The broad range alternators can supply single phase output up to 2/3 set rated 3-phase kW at 1.0 power factor.
3. The extended stack (full single phase output) and 4 lead alternators can supply single phase output up to full set rated 3-phase kW at 1.0 power factor.

Derating factors

Natural gas

| | |
|---|---|
| Standby/Prime Three phase | Engine power available up to 594 m (1950 ft) at ambient temperatures up to 40 °C (104 °F). Altitude derate - 4% per 305 m (1000 ft) above 594 m (1950 ft). Temperature derate - 2% per 11 °C (1% per 10 °F) above 40 °C (104 °F). |
| Standby/Prime Full single phase output | Engine power available up to 594 m (1950 ft) at ambient temperatures up to 30 °C (86 °F). Altitude derate - 4% per 305 m (1000 ft) above 594 m (1950 ft). Temperature derate - 4% per 10 °C (2% per 10 °F) above 30 °C (86 °F). |

Propane

| | |
|----------------------|---|
| Standby/Prime | Engine power available up to 305 m (1000 ft) at ambient temperatures up to 25 °C (77 °F). Altitude derate - 4% per 305 m (1000 ft) above 305 m (1000 ft). Temperature derate - 2% per 11 °C (1% per 10 °F) above 25 °C (77 °F). |
|----------------------|---|

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. |

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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