



| Technical Data Sheet | | GB1548N6 | |  | |
|--|----------------------|-----------------------------|-------|---|-------------|
| 93800050005_V03_US | with engine | 16V4000L62 | | | |
| Fuel | | Natural gas | | | |
| Voltage / Frequency | | 480 V | | 60 Hz | |
| Heating water temperatur (in/out) | °F | / | | | |
| NOx emissions (dry) ¹⁾ | g/bhp-hr | < 1 | | | |
| Intercooler 2nd stage temperatur (in) | °F | 104 | | | |
| Exhaust gas temperature after heat exchanger | °F | | | | |
| Electrical power COP, parallel to grid acc. ISO 8528-1 | % | 100 | 75 | 50 | |
| Electrical power PRP, prime power acc. ISO 8528-5 G1 | % | | | | 100 |
| Energy balance | | | | | |
| Electrical power ^{2) 3)} | kWe | 1548 | 1156 | 763 | |
| Energy input ^{5) 7)} | kBTU/hr | 12858 | 9911 | 7001 | |
| Thermal output total ⁴⁾ | kBTU/hr | 2978 | 2210 | 1561 | |
| Thermal output engine (block, lube oil, 1st stage intercooler) ⁴⁾ | kBTU/hr | 2978 | 2210 | 1561 | |
| | kBTU/hr | | | | |
| Thermal output 2nd stage intercooler ⁴⁾ | kBTU/hr | 345 | 266 | 184 | |
| Engine power ISO 3046-1 ³⁾ | bhp | 2146 | 1609 | 1073 | |
| Generator efficiency at power factor = 1 | % | 97.4 | 97.1 | 96.3 | |
| Electrical efficiency ^{5) 6)} | % | 41.1 | 39.8 | 37.2 | |
| Total efficiency | % | 64.3 | 62.1 | 59.5 | |
| CHP Coefficient | | | | | |
| Power consumption ¹⁵⁾ | | | | | |
| Combustion air / Exhaust gas | | | | | |
| Combustion air volume flow ¹⁾ | ft ³ /min | 3731 | 2826 | 1953 | |
| Combustion air mass flow | lb/hr | 18049 | 13671 | 9445 | |
| Exhaust gas volume flow, wet ¹⁾ | ft ³ /min | 3924 | 2975 | 2058 | |
| Exhaust gas volume flow, dry ¹⁾ | ft ³ /min | 3517 | 2662 | 1838 | |
| Exhaust gas mass flow, wet | lb/hr | 18658 | 14140 | 9775 | |
| Exhaust temperature after turbocharger | °F | 828 | 874 | 919 | |
| Reference fuel | | | | | |
| Natural gas | | CH ₄ > 95 Vol. % | | | |
| Sewage gas | | not applicable | | | |
| Biogas | | not applicable | | | |
| Landfill gas | | not applicable | | | |
| CO ₂ / CH ₄ volume ratio | | | | | |
| Minimum methane number | MN | 70 | | | |
| Range of heating value: design / operation range | BTU/ft ³ | 966.2 / 773.0 - 1111.1 | | | |
| Exhaust gas emissions ^{6) 7)} | | | | | |
| NOx, stated as NO ₂ (dry) | g/bhp-hr | < 1 | | | |
| CO (dry) | g/bhp-hr | < 2 | | | |
| HCHO (dry) ⁷⁾ | g/bhp-hr | | | | |
| VOC (dry) | g/bhp-hr | < 0.7 | | | |
| Otto-gas engine, lean burn operation with turbocharging | | | | | |
| Number of cylinders / configuration | | 16 V | | | |
| Engine typ | | 16V4000L62 | | | |
| Engine speed | rpm | 1500 | | | |
| Bore | in | 6.7 | | | |
| Stroke | in | 8.3 | | | |
| Displacement | in ³ | 4654 | | | |
| Mean piston speed | ft/sec | 34.4 | | | |
| Compression ratio | | 12.8 | | | |
| BMEP at nominal engine speed min-1 | psi | 243.4 | | | |
| Lube oil consumption ⁸⁾ | gal/hr | 0.149 | | | |
| Max. exhaust back pressure after engine | in H ₂ O | 24.11 | | | |
| Generator | | | | | |
| Rating power (F) | kVA | 2362 | | | |
| Max. allowable p.f. inductive (overexcited) / capacitive (underexcited) ¹⁶⁾ | | 0.8 / 1 | | | |
| Voltage tolerance / frequency tolerance | % | ± 5 / ± 5 | | | |
| Max. ambient temperature | °F | 104 | | | |
| Max. installation altitude | ft | 3281 | | | |
| Engine cooling water system | | | | | |
| Coolant temperature (in/out) | °F | 172 / 194 | | | |
| Coolant flow rate ⁹⁾ | gal/min | 286.19 | @ | 29 | psi delta p |
| CVs value (Block, lubeoil and 1st stage) ¹⁰⁾ | | 53.1 | | | |
| Max. operation pressure (coolant before engine) | psi | 87 | | | |
| Exhaust gas heat exchanger (EGHE) | | | | | |
| Exhaust gas temperature (out) | °F | | | | |
| Coolant temperature (in/out) | °F | | | | |
| Coolant volumetric flow ⁹⁾ | gal/min | | @ | | psi delta p |
| CVs value ¹⁰⁾ | | | | | |
| Max. operation pressure (coolant water) | psi | | | | |

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| Oilcooler, external | | | | | |
| Coolant temperature (in/out) | | | | | |
| Coolant volumetric flow ⁹⁾ | | | | @ | psi delta p |
| CV-Value ¹⁰⁾ | | | | | |
| Max. operation pressure | | | | | |
| Intercooler 2nd stage, external | | | | | |
| Coolant temperature (in/out) | | °F | 104 / 111.2 | | |
| Coolant volumetric flow ⁹⁾ | | gal/min | 101.27 | @ | 5.802 psi delta p |
| CVs value ¹⁰⁾ | | | | | 42 |
| Max. operation pressure in front of intercooler | | psi | | | 87 |
| Plate heat exchanger | | | | | |
| Coolant temperature (in/out) | | °F | | | |
| Heating water temperature (in/out) | | °F | / | | |
| Heating water volumetric flow ⁹⁾ | | gal/min | | @ | psi delta p |
| CVs value ¹⁰⁾ | | | | | |
| Max. operation pressure (heating water) | | psi | | | |
| Space ventilation | | | | | |
| Genset ventilation heat ¹¹⁾ | | kBTU/hr | 447 | | |
| Combustion air temperature: (min./design/max.) | | °F | | | 68 / 77 / 86 |
| Min. engine room temperature ¹²⁾ | | °F | | | 59 |
| Max. temperature difference ventilation air (in/out) | | °F | | | 36 |
| Min. ventilation air flow in (combustion+ventilation) ¹³⁾ | | ft ³ /min | | | 14403 |
| Gearbox | | | | | |
| Gear ratio | | | | | 1.2 |
| Thermal output gearbox (watercooled) | | kBTU/hr | | | 34 |
| Efficiency | | | 99.35 | 99.24 | 99.02 |
| Filling quantities | | | | | |
| Lube oil for engine | | gal | | | 66.04 |
| Coolant for engine | | gal | | | 71.33 |
| Coolant for intercooler | | gal | | | 5.81 |
| Heating water for plate heat exchanger | | gal | | | |
| Engine sound level ¹⁴⁾ (1 meter distance, free field) | | | | | |
| Frequency | | Hz | 63 | 125 | 250 |
| Sound pressure level | | dB | 73.6 | 80.6 | 81.8 |
| Frequency | | Hz | 1000 | 2000 | 4000 |
| Sound pressure level | | dB | 83.5 | 81.4 | 82.8 |
| Sum of pressure levels | | Lin dB | 99.3 | | |
| | | dB A | 98.0 | | |
| Sound power level | | dB A | 117.4 | | |
| Undampened exhaust noise (1 meter distance to outlet within 90°, free field) | | | | | |
| Frequency | | Hz | 63 | 125 | 250 |
| Sound pressure level | | dB | 107.2 | 110.5 | 103.6 |
| Frequency | | Hz | 1000 | 2000 | 4000 |
| Sound pressure level | | dB | 92.5 | 91.3 | 87.9 |
| Sum of pressure levels | | Lin dB | 121.1 | | |
| | | dB A | 106.5 | | |
| Sound power level | | dB A | 118.7 | | |
| Dimensions | | | | | |
| Length | | in | | | 258 |
| Width | | in | | | 79 |
| Height | | in | | | 102 |
| Gross weight / dry weight | | lb | | | 38581 / 37390 |
| Power derating | | | | | |
| Altitude | | | | | |
| Combustion air temperature | | | | | |
| Intercooler 2nd stage temperature (in) | | | | | |
| Methane number | | | | | |
| Boundary conditions and consumables | | | | | |
| <p>1) Normal ft3 at p = 14.696 psi und T = 32 °F</p> <p>2) Generator gross power at nominal voltage, power factor = 1 and nominal frequency</p> <p>3) At standard reference conditions (ISO 3046-1); atmospheric pressure: 14.5 psi; air temperature: 77 °F; rel. air humidity 30 %</p> <p>4) Thermal output at layout temperature; tolerance +/- 8 %</p> <p>5) According to ISO 3046 (+ 5 % tolerance), using reference fuel used at nominal voltage, power factor = 1 and nominal frequency</p> <p>6) Deviations from the layout parameters respectively the reference fuel can have influence to the obtained efficiency and exhaust emissions</p> <p>7) Emission values during system parallel operation - where required with Oxcat</p> <p>8) Reference value at nominal load (without amount of oil exchange)</p> <p>9) Stated values for pure water, adaption for other cooling fluid composition necessary</p> <p>10) The CVs value declares the volumetric flow in gal/min at a pressure drop of 1 psi</p> <p>11) Only generator- and surface losses</p> <p>12) Frost-free conditions must be guaranteed</p> <p>13) Amount of ventilation air must be adapted to the gas safety concept</p> <p>14) All sound pressure levels at nominal load COP</p> <p>15) Power consumption of all electrical consumer, which are mounted at the module / aggregate</p> <p>16) Max. allowable cos phi at nominal power (view of producer)</p> | | | | | |