

WP13GTA

12.5 L

| | Units | | Specifcaiton | |
|---|---------------------|---------------------|--------------------------|------------|
| | Std | Metric | 1800 | |
| Basic Data | | | | |
| Type | N/A | | in-line 4cycle | |
| Number of cylinders | N/A | | 6 | |
| Aspiration | N/A | | Turbo charger air cooled | |
| Bore | in | mm | 5.0 | 127 |
| Stroke | in | mm | 6.5 | 165 |
| Displacement | in ³ | L | 764.9 | 12.54 |
| Lambda | N/A | | 1 | |
| Compression Ratio | N/A | | 9.75 | |
| Mean Piston Speed | ft/min | m/s | 1948.8 | 9.900 |
| Gross Standby Power Rating^{1,2,3} Per ISO 3046 at the Flywheel | | | | |
| NG | HP | kW | 401.3 | 299.3 |
| LP | HP | kW | 242.0 | 180.5 |
| MEP (@ rated Load on NG) | psi | bar | 234.3 | 15.9 |
| MEP (@ rated Load on LP) | psi | bar | 140.5 | 9.6 |
| Thermal Balance | | | | |
| Total Fuel | Ft ³ /hr | kg/hr | 3416.3 | 69.40 |
| Heat to Work | btu/min | kW | 17072.1 | 300.20 |
| Heat rejected to Cooling water at rated Load | btu/min | kW | 16298.7 | 286.60 |
| Heat Rejection per CAC | btu/min | kW | 2144.0 | 37.70 |
| Heat Rejected to Exhaust (LHV TO 77oF) | btu/min | kW | 14592.6 | 256.60 |
| Enigne Radiated Heat | btu/min | kW | 2462.4 | 43.30 |
| Gross Prime Power Rating^{1,2,3} Per ISO 3046 at the Flywheel | | | | |
| NG | HP | kW | 321.8 | 240.0 |
| LP | HP | kW | 241.4 | 180.0 |
| MEP (@ rated Load on NG) | psi | bar | 187.4 | 12.8 |
| MEP (@ rated Load on LP) | psi | bar | 140.5 | 9.6 |
| Thermal Balance | | | | |
| Total Fuel | Ft ³ /hr | kg/hr | 2766.5 | 56.2 |
| Heat to Work | btu/min | kW | 13642.9 | 239.9 |
| Heat rejected to Cooling water at rated Load | btu/min | kW | 13705.5 | 241 |
| Heat Rejection per CAC | btu/min | kW | 2144.0 | 37.7 |
| Heat Rejected to Exhaust (LHV TO 77oF) | btu/min | kW | 11538.8 | 202.9 |
| Engine Radiated Heat | btu/min | kW | 2269.1 | 39.9 |
| Gross Continuous Power Rating^{1,2,3} Per ISO 3046 at the Flywheel | | | | |
| NG | HP | kW | 273.5 | 203.9 |
| LP | HP | kW | 274.7 | 204.9 |
| MEP (@ rated Load on NG) | psi | bar | 159.4 | 10.84 |
| MEP (@ rated Load on LP) | psi | bar | 160.1 | 10.89 |
| Rotation Viewed from Flywheel | N/A | | Counter clockwise | |
| Firing Order | N/A | | 1-5-3-6-2-4 | |
| Weight and Power Output | | | | |
| Dry Weight | | | | |
| Fan to Flywheel | lb | kg | 2336.9 | 1060 |
| Rad to Flywheel | lb | kg | 2910.1 | 1320 |
| Maximum Allowable Bending Moment at Rear of Block | lb ft | N m | 8237.9 | 11170 |
| Moment of Inertia About Roll Axis | lb ft ² | kg m ² | 60.9 | 44.90 |
| Flywheel housing | N/A | | SAE No.1 | |
| Flywheel | N/A | | No.14 | |
| Number of Flywheel Teeth | N/A | | 136 | |
| Exhaust System | | | | |
| Type | | | | |
| Maximum allowable Back pressure | in HG | kPa | 4.0 | 16 |
| Standard Catalyst Back pressure | in HG | kPa | | |
| Exhaust Outlet Pipe Size | in | mm | 3.15→3.37 | 80.00→85.6 |
| Maximum Turbine Inlet Temperature | °F | °C | 1549.4 | 843.00 |
| Exhaust Flow at Rated Power | lb/hr | kg/hr | 2700.7 | 1226.10 |
| Air Induction System | | | | |
| Maximum allowable Intake Air Restriction with Air Cleaner | | | | |
| Clean | inH2O | kPa | 12.0 | 3 |
| Dirty | inH2O | kPa | 24.9 | 6.20 |
| Combustion Air required (entire engine) | lb/hr | kg/hr | 2547.8 | 1156.70 |
| Combustion Air required (entire engine) | CFM | m ³ /min | 527.6 | 14.94 |
| Charge Air Cooler | | | | |
| Compressor Outlet Temperature | °F | °C | 326.1 | 163.4 |

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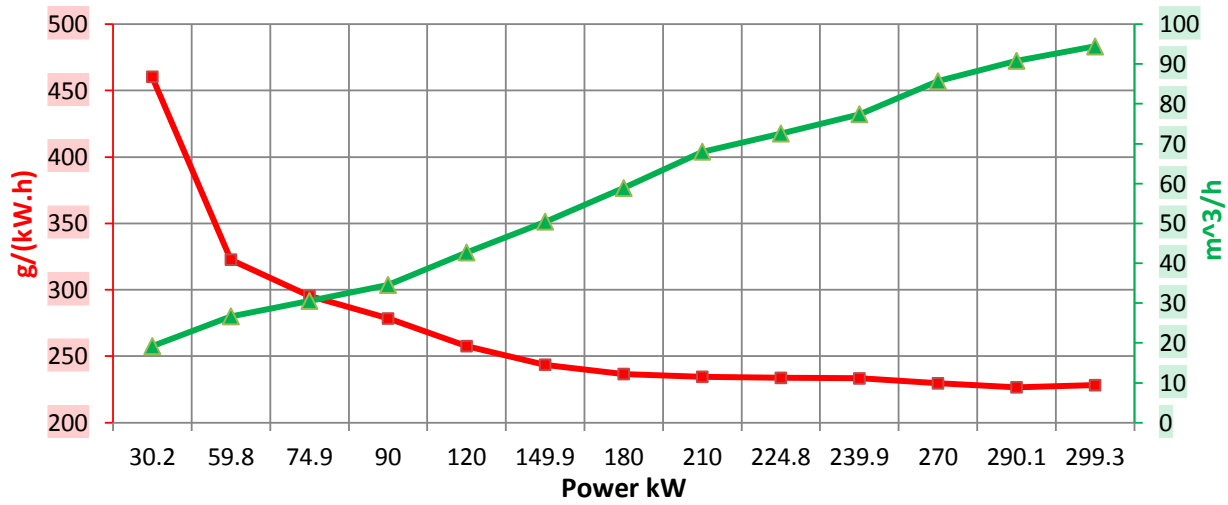
| | Units | | Specifcaiton | |
|---|--|--------|--------------|--------|
| | Std | Metric | 1800 | |
| Compressor Flow Rate per CAC | lb/hr | kg/hr | 2480.4 | 1126.1 |
| CAC Rise over Ambient (Charge) | | | | |
| Specified | °F | °C | 69.8 | 21 |
| Acutal | °F | °C | 69.8 | 21 |
| Max pressure loss across the CAC | inH2O | kPa | 48.2 | 12 |
| Maximum Intake Air Temperature (IAT) | °F | °C | 122.0 | 50 |
| ECU IAT Warning | °F | °C | 169.9 | 76.6 |
| ECU IAT Shutdown | °F | °C | 180.0 | 82.2 |
| Cooling System | | | | |
| Coolant Capacity | | | | |
| Engine only | gal | L | 94.6 | 25 |
| Engine with Radiator | gal | L | 208.2 | 55 |
| Engine Coolant Flow | gal/min | L/min | 2271.0 | 600 |
| Water Pump Speed | RPM | | 3505 | |
| Standard Thermostat Range | | | | |
| Cracking Temperature | °F | °C | 168.8 | 76 |
| Full Open Temperature | °F | °C | 190.4 | 88 |
| Maximum Allowable Pressure Cap | psi | bar | 7.4 | 0.50 |
| Ambient Clearance Open Genset (water) (Air-to-Boil) | | | | |
| Specified | °F | °C | 122.0 | 50 |
| Acutal | °F | °C | 120.9 | 49.4 |
| Maximum Allowable Top Tank Temperature | °F | °C | 203.0 | 95 |
| ECU Warning | °F | °C | 205.0 | 96 |
| ECU Shutdown | °F | °C | 212.0 | 100 |
| Fan Power | HP | kW | 41.6 | 31 |
| Fan Diameter, including blades | in | mm | 34.0 | 864 |
| Fan Speed | RPM | | 2200 | |
| Electrical System | | | | |
| Minimum Recommended Battery Capacity | AH | | 150 | |
| Cold Cranking Current | | | | |
| Engine only | CCA | | 900 | |
| Engine with Drive train | CCA | | 900 | |
| Maximum Allowable Resistance of Starting Circuit | Ohms | | 0.002 | |
| Starting Motor Power | HP | kW | 7.4 | 5.5 |
| Battery Charging Alternator | | | | |
| Voltage | Volts | | 28 | |
| Current | Amps | | 70 | |
| Coil primary Resistance | Ohms | | 0.59Ω ± 10% | |
| Spark Plug p/n | Bosch R66857 | | | |
| Spark plug gap | mm | | 0.45-0.5 | |
| Lubrication System | | | | |
| Oil Specification | SAE 15W-40 Low Ash Gas engine oil (.25-.5% by wt), API CD/CF or higher | | | |
| Oil Pressure | | | | |
| Idle | | | | |
| Min | Psi | Bar | 36.8 | 2.50 |
| Max | Psi | Bar | 63.2 | 4.30 |
| Rated Speed | | | | |
| Min | Psi | Bar | 51.5 | 3.50 |
| Max | Psi | Bar | 80.9 | 5.50 |
| Maximum Allowable Oil Temperature | °F | °C | 221.0 | 105.00 |
| Engine Oil Capacity | | | | |
| Min | Qts | L | 28.0 | 26.50 |
| Max | Qts | L | 31.7 | 30.00 |
| Oil Filter Capacity | Qts | L | 2.7 | 2.60 |
| ECU Oil Pressure Warning | psi | | 25 | |
| ECU Oil Pressure Shut Down | psi | | 30 | |
| Fuel System | | | | |
| Fuel Consumption | | | | |
| NG | Ft ³ /hr | kg/hr | 3362.1 | 68.30 |
| LP | Ft ³ /hr | kg/hr | 2433.2 | 49.43 |
| Maximum EPR Rated Pressure | psi | kPa | 1.0 | 6.90 |
| Maximum Running pressure to Electronic Pressure Regulator (EPR) | inH2O | kPa | 10.8 | 2.70 |
| Minimum Running pressure to EPR | inH2O | kPa | 6.8 | 1.70 |
| Minimum Gas Supply Pipe Size | 1-1/4" NPT | | | |
| Maximum EPR Rated Pressure | psi | kPa | 1.0 | 6.90 |

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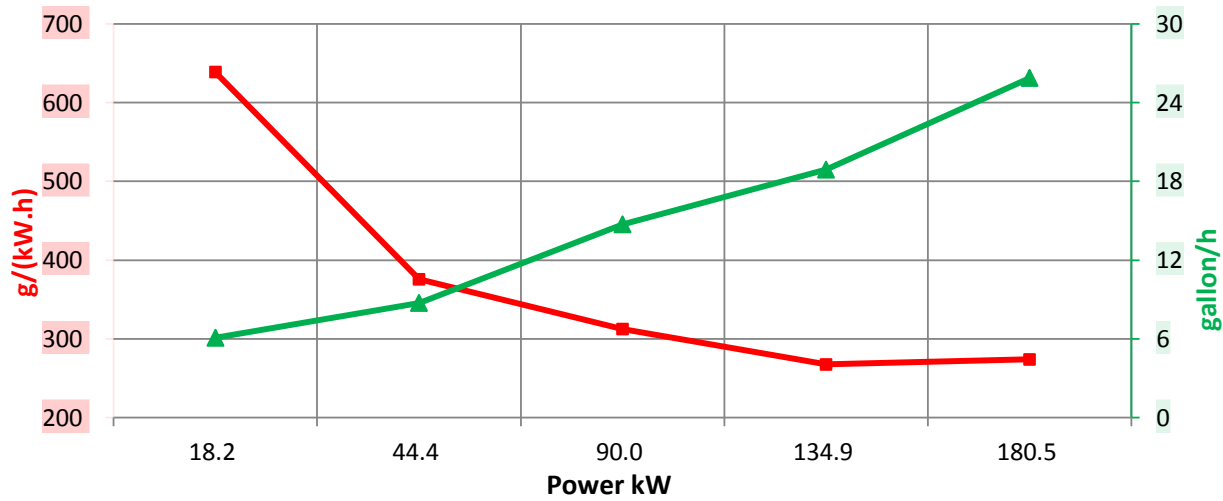
12.5 L

| | Units | | Specificaion | |
|---|----------|--------|--------------|------|
| | Std | Metric | 1800 | |
| Maximum Running Pressure to EPR | inH2O | kPa | 10.8 | 2.70 |
| Minimum Running Pressure to EPR | inH2O | kPa | 6.8 | 1.70 |
| Minimum LPG Supply Pipe Size ⁴ | 1/4" NPT | | | |

Fuel Consumption Curve @ 1800 RPM (Natural Gas)



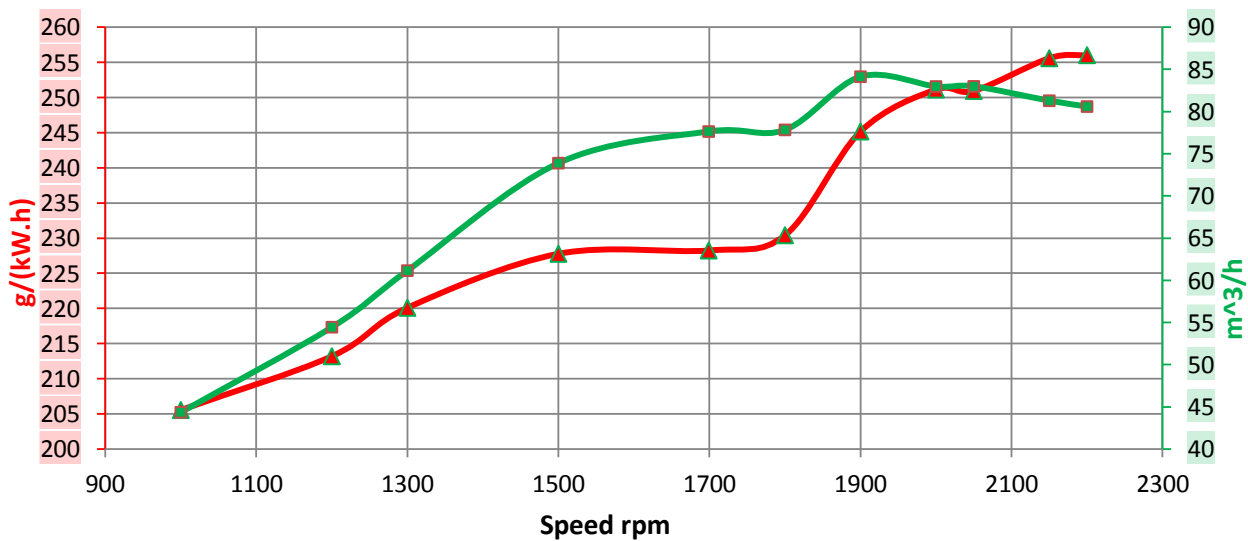
Fuel Consumption Curve @ 1800 RPM (Liquid Propane Gas)



Power Curve vs. Speed (Natural Gas)



Fuel Consumption Curve vs. Speed (Natural Gas)

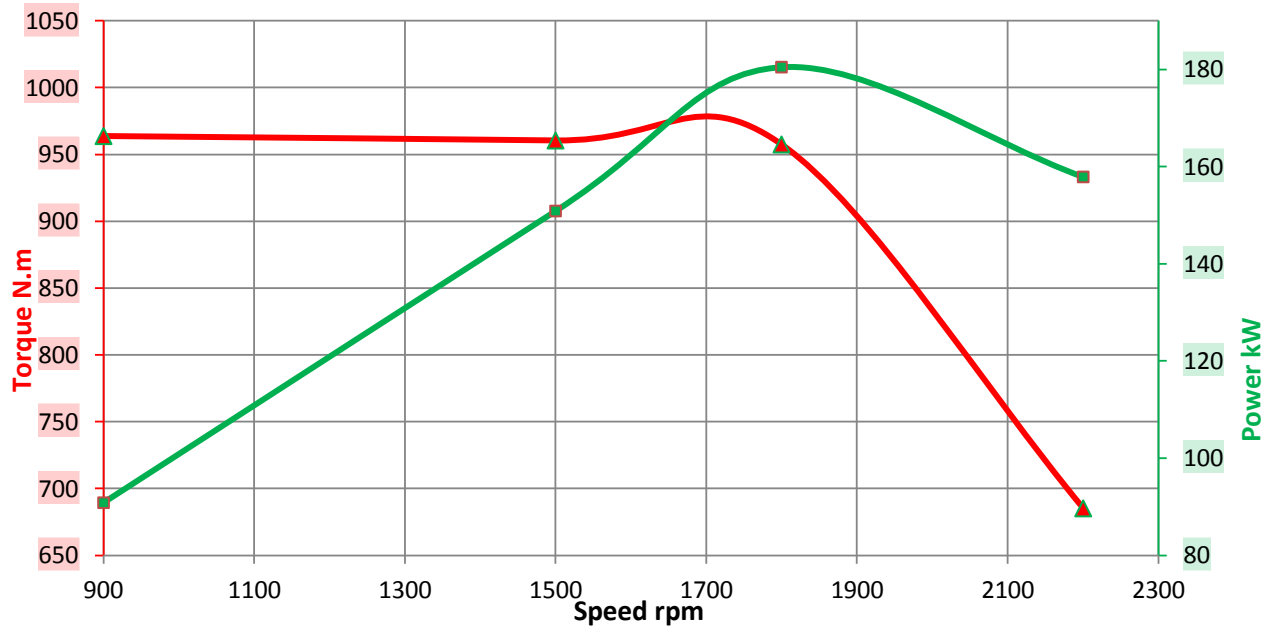


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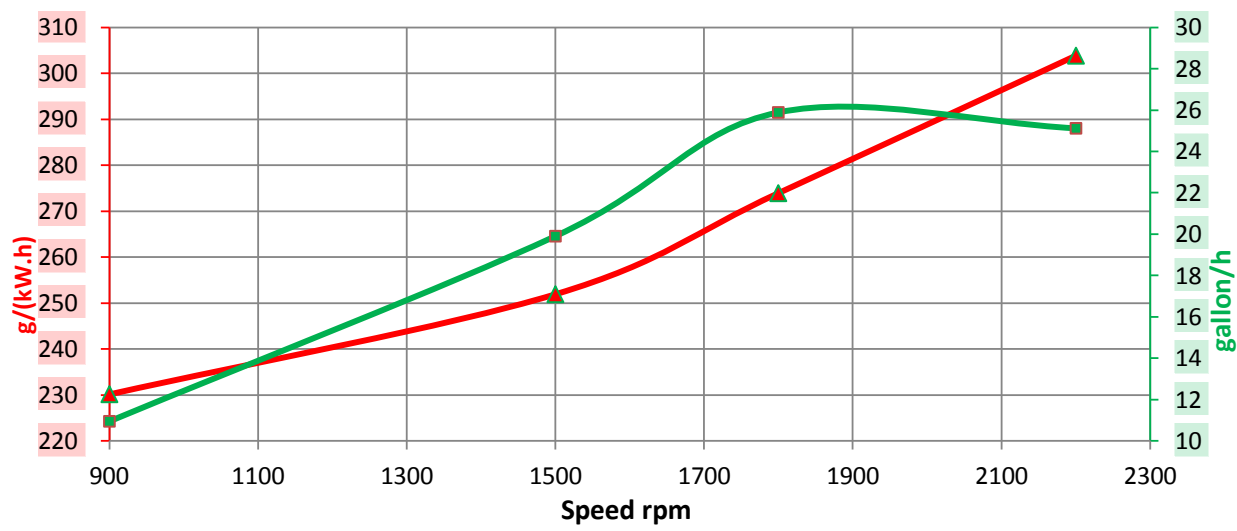
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|-------|--------|--------------|
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Power Curve vs. Speed (Liquid Propane Gas)



Fuel Consumption Curve vs. Speed Liquid Propane Gas)



¹Standby and overload ratings based on ISO3046.

² All ratings are gross flywheel horsepower corrected to 77°F at an altitude of 328 feet with no cooling fan or alternator losses using heating value for NG of 1025 BTU/SCF (HHV) and for propane of 2490 BTU/SCF (HHV).

³ Production tolerances in engines and installed components can account for power variations of +/- 5%. Altitude, temperature and excessive exhaust and intake restrictions should be applied to power calculations. Engine maybe operated at : up to 1200 feet and 86°F without power deration. For sustained operation above these conditions, derate by 2.5% per 1000 feet, and 1.5% per 10°F.

⁴ The preceeding pipe sizes are only suggestions and piping sizes may vary with temperature, pressure, distance from supply and application of local codes. Gas must be available at adequate volume and pressure for engine at the EPR.