

GM GASEOUS GENERATOR SET
FUEL: GASEOUS LP & NG
ENGINE: GM 8.8LNA
SPECIFICATION SHEET

| Power Ratings | Standby | | Prime | |
|--|---------|-------|-------|-------|
| Gaseous Fuel | kW | kVA | kW | kVA |
| Natural Gas (NG) | 117.0 | 146.3 | 105.3 | 131.6 |
| LPG | 102 | 127.5 | 91.8 | 114.8 |
| Ampage 0.8 PF 208V | 354 | | 319 | |
| 12-wire voltages: 1P = 120/240; 3P = 120/208, 120/240, 480/277 | | | | |

Rating Definitions: Rated for 1800 rpm.

Standby ratings are applicable for the duration of any power outage. No overload is available at these ratings. Prime ratings are continuous per BS 5514, DIN 6271, ISO3046 & IEC 34-1. Overload capacity on prime-power ratings is 10% for one hour in each twelve hours of operation. All single phase ratings are based on a 1.0 power factor, three (3) phase ratings based on a 0.8 power factor. Ratings are established based on 85°F (29°C) and an elevation of 1,000 feet (305 meters).

STANDARD FEATURES:

Tradewinds Power Corp (TPC) Gaseous GM powered generator sets are self contained standby generator packages complete with mounted auto control panel, gas connections, air cleaners, exhaust silencers, and other accessories mounted in a weather protective enclosure. All TPC systems and components are prototyped, assembled and tested within a purpose built packaging, manufacturing, and test facility.

Engine:

- GM Vortec 8.8LNA gaseous engine
- Full ECU engine control with coil-on-plug variable timing ignition
- Integrated knock sensing and control
- Heavy duty rated for standby and continuous prime power operation
- Cooling system capable of operation at 120°F ambient
- GM Vortec 4-cycle gaseous-fueled engine is constructed for long-life, and heavy-duty operation, is EPA certified, spark-ignited, and designed for maximum reliability and durability.
- Water-cooled and stoichiometric with replaceable dry cylinder liners
- Cast iron block and heads with overhead valve configuration
- Thermostatically controlled jacket water heater

Alternator:

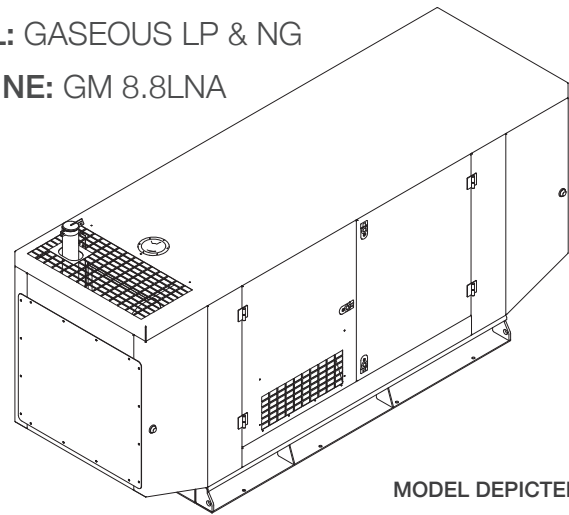
- Marathon 4-pole, 12-wire brushless generator, single bearing
- Alternators are oversized with volts per hertz tracking with PMG for enhanced motor starting for engineers to standard on one package
- Superior voltage waveform achieved by a 2/3 pitch and skewed rotor.
- Vacuum-impregnated windings with fungus-resistant epoxy for dependability and long-life
- Sustained short-circuit capability enabling down-line circuit breakers to trip without collapsing the generator field

Starting System:

- 12-VDC Starter
- Engine mounted Battery Charging Alternator
- Battery Cables and Rack along with Grounding Strap

Enclosure and Arrangement of Complete Assembly:

- Engine and generator close coupled mounted on vibration isolators
- Weather Protective Enclosure constructed of Marine Grade Aluminum 0.125 thickness, SS Hardware, white powder coat paint finish on both sides, sound Insulation resistant to high temperatures, fuel and oil, hinged / removable / keyed alike doors
- Residential rated interior mounted exhaust silencer kit
- Vertical radiator and exhaust discharge
- Oil & Coolant Drain Lines with Brass Ball Check Valves
- 175mph wind load rating


MODEL DEPICTED: TG80
AUTOMATIC ENGINE CONTROLLER DGC2020:

- Automatic engine controller with analog display of all functions
- Microprocessor Based, Navigation key with large LCD display
- SAE J1939 CANBUS Communication
- Event Recording
- Transfer Switch Control (main failures)
- Alternator Protection: under/over voltage, under/over frequency
- Engine Protection: Low oil pressure, High coolant temperature, Over speed & over crank, Sender Unit failure, Fuel Failure sensor, Battery Charger Failure
- All protections are programmable as Alarms or Pre-alarms
- Metering (ample range): Volts, Current, Hz, Watts, VA, Pf, Oil Pressure, Coolant Temperature, RPM, DC Volts, Fuel Level, Engine running time
- Engine Control with Timers
- External remote start input (on or off load)
- 16 programmable contact inputs - 7 Contact outputs

SCADA interface points:

- No fuel
- Low battery charging voltage
- Engine running
- Common engine alarm
- Switch in Emergency Position


DGC-2020 DIGITAL CONTROLLER
OPTIONAL EQUIPMENT:

- Low coolant level switch
- Water separator fuel filter
- Space heater
- Generator drip covers
- 17-light remote annunciator panel

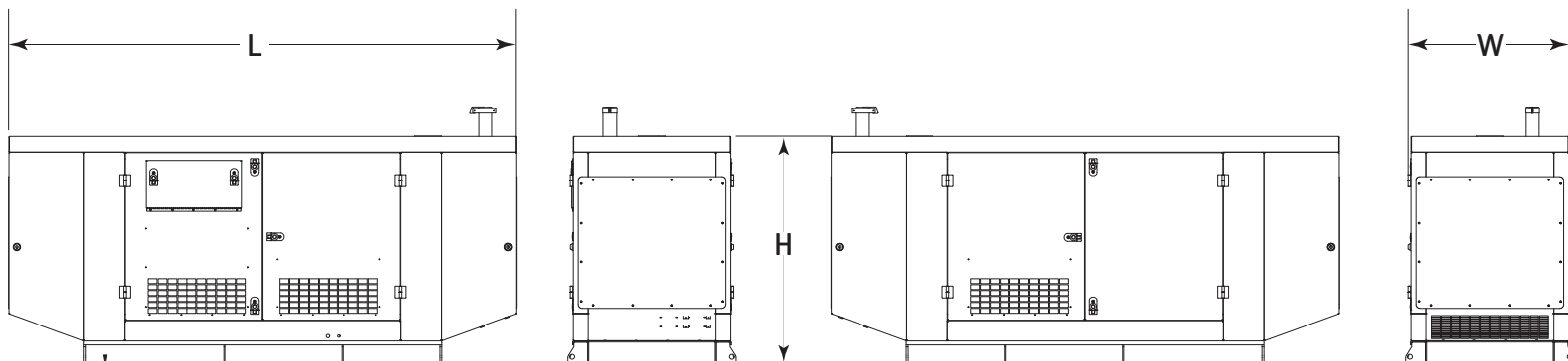
WARRANTY:

- Engine covered under the original equipment manufacturer's warranty - consult Tradewinds Power Corp for details
- Complete package supplied with 2-year limited warranty

The manufacture reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

| ENGINE SPECIFICATION: | |
|--|----------------------------|
| Manufacturer | General Motors |
| Model | 8.8LNA |
| Emissions | EPA Tier 3 |
| Engine speed (rpm) | 1800 |
| Max. (Cont.) HP Power 1800 rpm | LPG 185.0hp NG 162.2hp |
| Cylinder arrangement | Vee |
| Combustion system | Spark Ignition |
| Aspiration | Natural |
| Engine type | Gaseous |
| Fuel NG (LPG) | LPG or NG, vapor withdrawl |
| Number of Cylinders | 8 |
| Displacement in ³ (liters) | 535 (8.8) |
| Bore and Stroke inches (mm) | 4.35 X 4.5 (110.5 x 114.3) |
| Cooling | Water-cooled |
| Governor | Electronic |
| Starting aids | NA |
| Compression ratio | 10.1:1 |
| Air cleaner type | Medium duty dry type |
| Exhaust Silencer dBA | 80dBA |
| Fuel switch | Fuel Cut-off Valve |
| COOLING SYSTEM FOR OPERATING AT 120°F AMBIENT: | |
| Cooling System | Water-cooled |
| Engine Coolant Capacity quarts (Liters) | 14.5 (13.7) |
| Fan | Belt driven pusher fan |
| Radiator | Engine mounted |
| Cooling air flow - cu. ft./min. (cu. m/min.) | 12000 (340) |
| LUBRICATING SYSTEM: | |
| Total lubricating capacity quarts (Liter) | 8.0 (7.57) |
| Recommended lubricating oil grade | SAE 5W30 |
| Oil Pressure – psi (bars) | 70.0 (4.8) |
| Maximum Allowable Oil Temperature F (C) | 250 (121) |

| ENGINE ELECTRICAL SYSTEM: | |
|--|--|
| Starting motor voltage | 12 volt |
| Charger | 65 A Alternator with DC output |
| Wet Cell Battery | Lead Acid |
| ALTERNATOR: | |
| Configuration | Brushless, 12-wire, 4-pole |
| Frequency | 60 Hz |
| Voltage regulation | + / - 1%, V/Hz, Electronic, EMI filtered |
| No load to full load voltage regulation | +/- 0.5%. |
| Coupling | SAE Adapter, Flexible Disc, Direct |
| Bearing | Single |
| Manufacturer | Marathon |
| Model | 361PSL1602 |
| Load acceptance | One Step, 100% per NFPA 110 |
| Compliance | NEMA, IEEE & ANSI for temp. rise |
| Construction | Self ventilated drip-proof |
| FUEL CONSUMPTION: CU. FT./HOUR LPG (NG) STANDBY RATING | |
| 100% | 617 (1727) |
| 75% | 490 (1370) |
| 50% | 365 (985) |
| 25% | TBA |
| CONTROL PANEL SPECIFICATIONS: | |
| Model | DGC2020 |
| Microprocessor based | Navigation key & large LCD display |
| Operating power | Nominal 12-24 VDC |
| Consumption | 14.2W run mode |
| Remote communication capability | Optional |
| ENCLOSURE AND ARRANGEMENT OF COMPLETE ASSEMBLY: | |
| Coupling | Close coupled to flywheel flange |
| Enclosure | Aluminum for weather protection |
| Base arrangement | Rigid steel base frame with AVMS |
| Spill containment | UL double wall base mounted |

DIMENSIONS & ARRANGEMENT DRAWING MODEL: TG80

KEY DIMENSIONS AND WEIGHT

| Description | Height | Length | Width | Weight lbs (Kg) |
|-------------------|--------|--------|-------|-----------------|
| Dimensions inches | 58.00 | 129.00 | 42.69 | 1769 (804) |