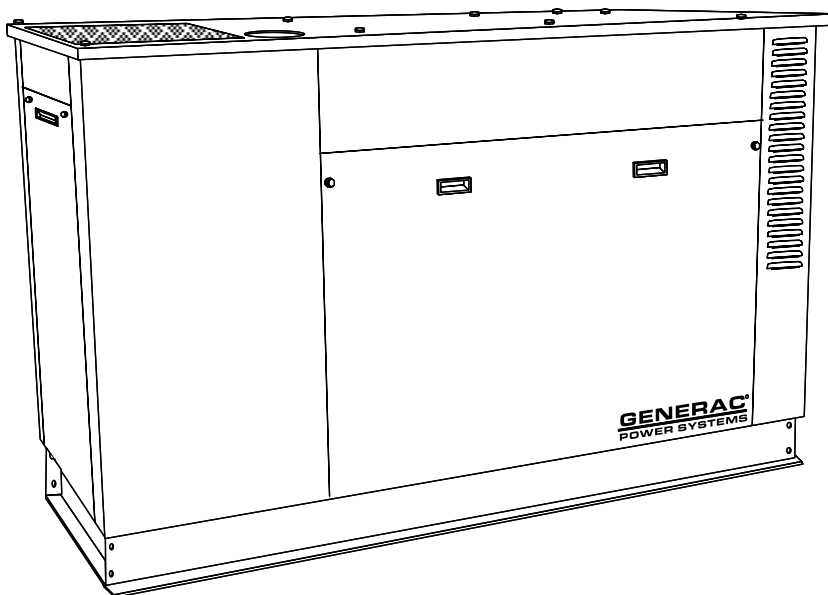


DG 50

Liquid Cooled Gas Engine Generator Set

Power Rating
50KW 60Hz



Power Matched
GENERAC 5.7 ENGINE
Naturally Aspirated

FEATURES

- TOTALLY SELF CONTAINED POWER MODULE
- PARALLELING CAPABILITY WITH UTILITY
- POWER SELL BACK TO UTILITY CAPABILITY
- PROGRAMMABLE PEAK SHAVING CONTROLLER AND LOAD FOLLOWING CONTROLLER (OPTIONAL)
- NO ADDITIONAL PARALLELING SWITCHGEAR REQUIRED
- TRANSFER SWITCH IS SELF CONTAINED INSIDE THE POWER MODULE
- PROTOTYPE TESTED FOR EXTENDED LIFE AND DURABILITY
- INTERNAL RELAY PROTECTION FOR OVER/UNDER VOLTAGE AND OVER/UNDER FREQUENCY PROTECTION
- SYNC CHECK PROTECTION INCLUDED
- LATEST TECHNOLOGY IN VOLTAGE REGULATION, MICROPROCESSOR CONTROLLED
- GENLINK™ SOFTWARE COMPATIBLE FOR COMPLETE CONTROL
- HEAVY DUTY LONG LIFE ENGINE WITH:
 - ✓ OVERSIZED AIR CLEANER
 - ✓ LARGE OIL CAPACITY
 - ✓ EXTENDED SERVICE OIL DRAIN INTERVALS
 - ✓ DUAL OIL FILTERS
 - ✓ TEMPERATURE COMPENSATED SYSTEM
 - ✓ HIGH ENERGY IGNITION SYSTEM
 - ✓ ADVANCED VALVE METALLURGY
 - ✓ HARDENED VALVE SEAT INSERTS
- HIGH EFFICIENCY ALTERNATOR FOR LONG LIFE AND RELIABILITY
 - ✓ BRUSHLESS EXCITATION
 - ✓ CLASS H INSULATION FOR LONG LIFE
- SOUND ATTENUATED
- ISOCHRONOUS ELECTRONIC GOVERNOR

GENERAC®
POWER SYSTEMS, INC.

GENERATOR SPECIFICATIONS

| | |
|---|--------------------------------|
| TYPE | Four-pole, revolving field |
| ROTOR INSULATION | Class H |
| STATOR INSULATION | Class H |
| TOTAL HARMONIC DISTORTION | <3% |
| TELEPHONE INTERFERENCE FACTOR (TIF) | <50 |
| ALTERNATOR | Self-ventilated and drip-proof |
| BEARINGS (PRE-LUBED & SEALED) | 1 |
| COUPLING | Direct, Flexible Disc |
| ALTERNATOR CAPACITY | 110% |

NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN6271.

EXCITATION SYSTEM

| | |
|-------------------|--|
| ■ BRUSHLESS | Magnetically coupled DC current ✓ |
| | Eight-pole exciter w/ battery-driven field boost ✓ |
| | Mounted outboard of main bearing ✓ |
| REGULATION | Solid-state ✓ |
| | ±1% regulation ✓ |

GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "H" insulation as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Models tested for motor-starting ability by measuring instantaneous voltage dip.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and main-line circuit breaker capable of handling full output capacity.
- System Torsional acceptability confirmed during prototype testing.

ENGINE SPECIFICATIONS

| | |
|-------------------------------|-------------------------|
| MAKE | GENERAC |
| MODEL | 5.7 |
| CYLINDERS | V-8 |
| DISPLACEMENT | 5.7 Liter (350 cu. in.) |
| BORE | 101.6 mm (4.00 in.) |
| STROKE | 88.4 mm (3.48 in.) |
| COMPRESSION RATIO | 9.4:1 |
| INTAKE AIR | Naturally Aspirated |
| NUMBER OF MAIN BEARINGS | 5 |
| CONNECTING RODS | Steel |
| CYLINDER HEAD | Cast Iron |
| PISTONS | Aluminum Alloy |
| CRANKSHAFT | Iron |

VALVE TRAIN

| | |
|-----------------------------------|------------------|
| LIFTER TYPE | Hydraulic Roller |
| INTAKE VALVE MATERIAL | Stellite |
| EXHAUST VALVE MATERIAL | Stellite |
| HARDENED VALVE SEAT INSERTS | Yes |
| (SPECIFICALLY FOR GASEOUS FUEL) | |

ENGINE GOVERNOR

| | |
|--|----------|
| ELECTRONIC | Standard |
| FREQUENCY REGULATION, NO-LOAD TO FULL LOAD | ±0.5% |
| STEADY STATE REGULATION | ±0.25% |

LUBRICATION SYSTEM

| | |
|------------------------|--------------------------|
| TYPE OF OIL PUMP | Gear |
| OIL FILTER | Dual, Full Flow, Spin-on |
| CAPACITY | 41 qts. |
| ENGINE OIL PAN | 5 qts. |
| AUXILIARY TANK | 9 gal. |

COOLING SYSTEM

| | |
|----------------------------|------------------------------|
| TYPE OF SYSTEM | Pressurized, Closed Recovery |
| WATER PUMP | Pre-lubed, Self-sealing |
| TYPE OF FAN | Puller |
| NUMBER OF FAN BLADES | 7 |
| DIAMETER OF FAN | 26 in. |

FUEL SYSTEM

| | |
|---------------------------------------|----------------------------|
| NATURAL GAS | Standard |
| CARBURETOR | Down draft |
| SECONDARY FUEL REGULATOR | Natural Gas |
| AUTOMATIC FUEL LOCKOFF SOLENOID | Standard |
| OPERATING FUEL PRESSURE | 7" to 15" H ₂ O |

ELECTRICAL SYSTEM

| | |
|---------------------------------|-------------------|
| BATTERY CHARGE ALTERNATOR | 13.5 Amps at 12 V |
| STARTER MOTOR | 12 V |
| STANDARD BATTERY (12 VDC) | F-3ET |
| GROUND POLARITY | Negative |

DG 50

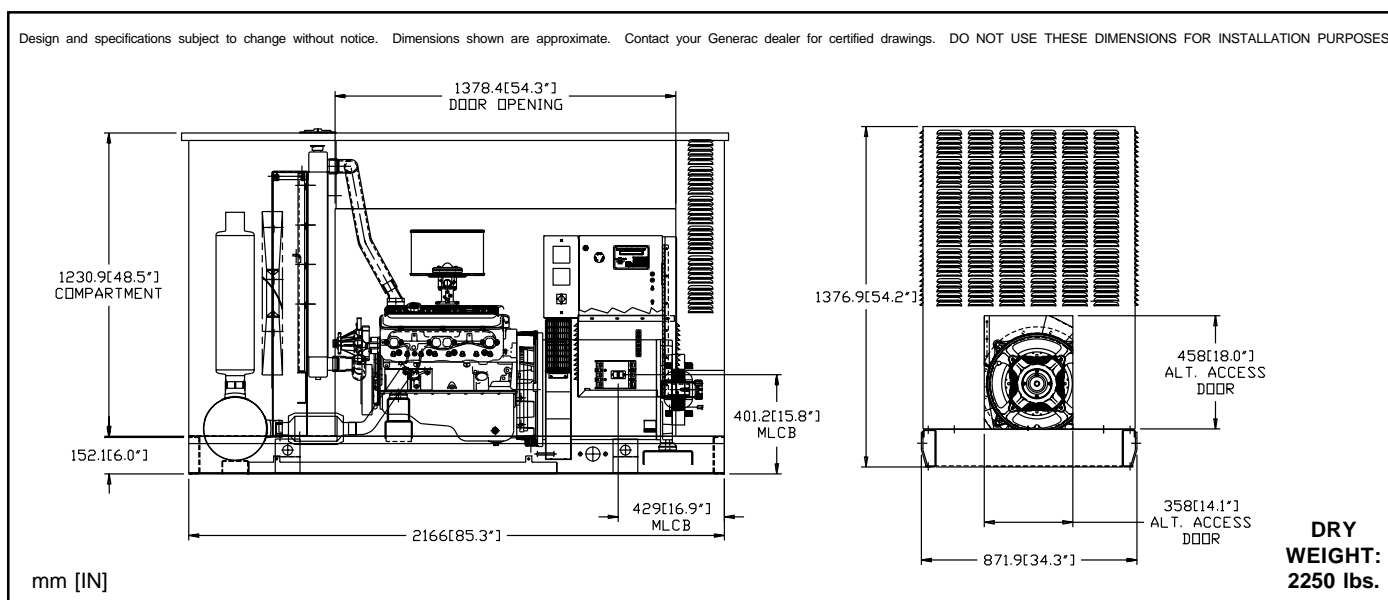
OPERATING DATA

| | PRIME / CONTINUOUS RATING KW / AMPERES | |
|---|--|--|
| GENERATOR OUTPUT (1800rpm, 60Hz) 120/208V, 3-phase, 0.8 pf 240/416V, 3-phase, 0.8 pf 277/480V, 3-phase, 0.8 pf | Nat. Gas 50 50 50 | Rated AMP 173 87 75 |
| MOTOR STARTING (3-phase alternators) Maximum KVA at 35% instantaneous voltage dip | 120/208V 240/416V 120 | 277/480 140 |
| FUEL Pipeline Quality Natural Gas, minimum LHV BTU/ft ³ Consumption - Note: Fuel consumption is based on 480V, 3-phase, 925 BTU/ft ³ LHV | 100% Load cfm 75% Load cfm 50% Load cfm | 850 10.2 8.1 6.5 |
| COOLING Engine Coolant capacity Heat rejection to coolant Inlet air flow Max. inlet air temperature | Liters (gal.) BTU/hour m ³ /min. (cfm) C° (F°) | 20.8 (5.5) 201,300 99 (3500) 43.3 (110) |
| COMBUSTION AIR Engine Flow at rated power | m ³ /min. (cfm) | 4.4 (155) |
| EXHAUST Flow rate (at rated output) Exhaust temperature, full load Exhaust outlet size | m ³ /min. (acfm) C° (F°) | 13.6 (480) 650 (1200) No hookup required, internal to unit |
| ENGINE Rated speed - rpm Horsepower at rated generator output Piston speed BMEP | m/sec. (ft./min.) bar (psi) | 1800 74 5.3 (1044) 6.5 (94) |
| POWER ADJUSTMENT FOR AMBIENT CONDITIONS | Corrected power to be calculated according to ISO-3046-1 | |
| NOISE LEVEL (average dBA@ 7 meters, free-field) | 58 | |
| OVERALL SIZE meters (in.) | 2.17 L x 0.86 W X1.38 H (82.25 L x 33.75 W x 54.5 H) | |
| WEIGHT, DRY kg (lbs.) | 1023 (2250) | |

STANDARD ENGINE & SAFETY FEATURES

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Fuel Lockoff Solenoid
- Secondary Fuel Regulator
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 12 Volt, Solenoid-Activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Isochronous Governor
- Battery (12V)
- Main Line Circuit Breaker

| FEATURES: | USER BENEFITS: |
|--|---|
| ■ Designed to provisions for industry standards. | ■ Safety features recognized by industry organizations. |
| ■ Conservative unit rating; 50kW continuous/prime output. | ■ Longer life less sensitive to deration due to ambient conditions. |
| ■ High-efficiency unit across wide load range. | ■ Lower fuel costs with flexible load operation. |
| ■ Remote control and monitoring package | ■ Hands-off operation; minimizes or eliminates trips to the site; proactive approach to scheduled maintenance |
| ■ Parallel/peak-shave mode ability (optional) | ■ Utility benefits with surplus distributed power supplied back onto power grid; allows energy service provider/utility to compensate for peak demand |
| ■ Automatic transfer switch has been designed to be UL listed | ■ Safety features recognized by industry standards; utility interconnection capability |
| ■ Unit can be under exclusive control of the utility | ■ Unit does not require on-site interface |
| ■ System monitoring and status indication | ■ Remote or local condition status |
| ■ Synchronizer | ■ Provides a smooth transfer between the utility and generator by matching phase and voltage |
| ■ Over/Under voltage and frequency | ■ Serves to detect a fault when the unit is paralleled to the utility |
| ■ Phase rotation check | ■ Prohibits power transfer when improper sequence match exists |
| ■ Check Synchronization | ■ Redundant check; assures synchronization when the unit is paralleled |
| ■ Power control | ■ Regulates generator power; maintains limits within the unit's capabilities |
| ■ Power factor control (programmable) | ■ Enables unit owner to produce power between 1.0 and .8 lagging pf. |
| ■ Internal RS232 communication link (remote access) | ■ Uses standard interconnect and modem |
| ■ Front panel RS232 port | ■ Full ability to complete on-site diagnostics |
| ■ GenLink compatible | ■ Full Generac product line compatibility; redundant system not required |
| ■ Designed to interface with SCADA Systems | ■ Simplifies control monitoring systems |
| ■ Ability to link with telephone land line / Optional cellular modem | ■ Personnel not required to visit site for monitoring |



GENERAC® POWER SYSTEMS, INC. • P.O. BOX 8 • WAUKESHA, WI 53187

262/544-4811 • FAX 262/544-0770