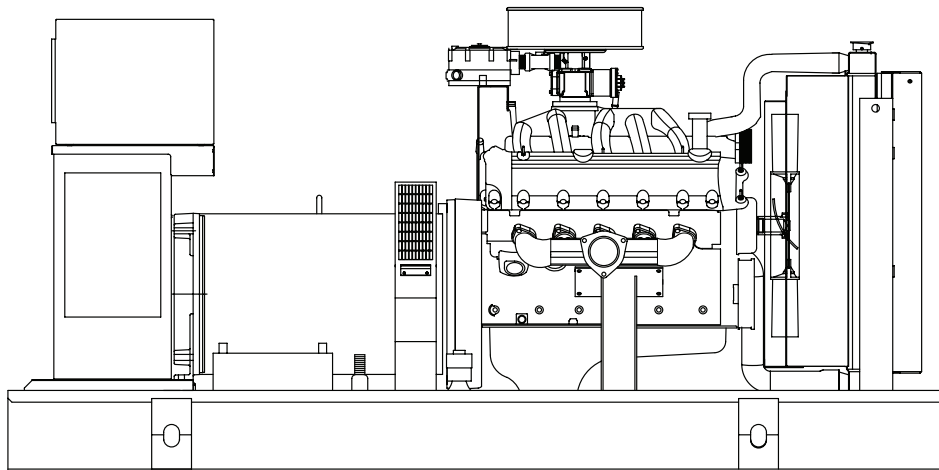


# SG050

## Liquid Cooled Gas Engine Generator Sets

Standby Power Rating  
50 kVA 50 Hz 3-phase  
40 kVA 50 Hz 1-phase

Prime Power Rating  
50 kVA 50 Hz 3-phase  
40 kVA 50 Hz 1-phase



Power Matched  
**GENERAC 6.8 GN ENGINE**  
Naturally Aspirated

## FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
- **SOLID-STATE, DIGITAL, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own a GENERAC POWER SYSTEM.
- **GENERAC TRANSFER SWITCHES, SWITCHGEAR AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, switchgear and controls for total system compatibility.

# GENERAC®

# APPLICATION & ENGINEERING DATA

SG050

## GENERATOR SPECIFICATIONS

TYPE .....	4-Pole, Synchronous
ROTOR INSULATION.....	Class H
STATOR INSULATION.....	Class H
TOTAL HARMONIC DISTORTION.....	<3.5%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR OUTPUT LEADS 3 PHASE .....	12 wire
BEARINGS.....	Sealed Ball
COUPLING.....	Direct
LOAD CAPACITY (STANDBY RATING).....	100%
EXCITATION SYSTEM.....	PMG or Brushless

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

## VOLTAGE REGULATOR

TYPE .....	Full Digital
SENSING .....	3 Phase
REGULATION.....	± 1/4%
FEATURES.....	Built into H-100 Control Panel V/F Adjustable Adjustable Voltage and Gain

## GENERATOR FEATURES

- Revolving field heavy duty generator
- Quiet drive coupling
- Operating temperature rise 120 °C above a 40 °C ambient
- Insulation is Class H rated at 150 °C rise
- All prototype models have passed three phase short circuit testing

## CONTROL PANEL FEATURES

- TWO FOUR LINE LCD DISPLAYS READ:
  - Voltage (all phases)
  - Power factor
  - kVAR
  - Engine speed
  - Run hours
  - Fault history
  - Coolant temperature
  - Low oil pressure shutdown
  - Overvoltage
  - Low coolant level
  - Not in auto position (flashing light)
  - ATS selection
  - Current (all phases)
  - kW
  - Transfer switch status
  - Low fuel pressure
  - Service reminders
  - Oil pressure
  - Time and date
  - High coolant temperature shutdown
  - Overspeed
  - Low coolant level
  - Exercise speed
- INTERNAL FUNCTIONS:
  - I<sup>2</sup>T function for alternator protection from line to neutral and line to line short circuits
  - Emergency stop
  - Programmable auto crank function
  - 2 wire start for any transfer switch
  - Communicates with the Generac HTS transfer switch
  - Built-in 7 day exerciser
  - Adjustable engine speed at exerciser
  - RS232 port for GenLink® control
  - RS485 port remote communication
  - Canbus addressable
  - Governor controller and voltage regulator are built into the master control board
  - Temperature range -40 °C to 70 °C

## ENGINE SPECIFICATIONS

MAKE .....	Generac
MODEL.....	V Type
CYLINDERS .....	10
DISPLACEMENT.....	6.8 Liter
BORE .....	3.55
STROKE.....	4.17
COMPRESSION RATIO.....	9:1
INTAKE AIR SYSTEM.....	Naturally Aspirated
VALVE SEATS.....	Hardened
LIFTER TYPE.....	Hydraulic

## GOVERNOR SPECIFICATIONS

TYPE .....	Electronic
FREQUENCY REGULATION .....	Isochronous
STEADY STATE REGULATION.....	± 0.25%
All functions are factory preset.	
Individual parameter adjustments can be made via GenLink®.	

## ENGINE LUBRICATION SYSTEM

OIL PUMP .....	Gear
OIL FILTER.....	Full flow spin-on cartridge
CRANKCASE CAPACITY.....	6 Quarts

## ENGINE COOLING SYSTEM

TYPE .....	Closed
WATER PUMP.....	Belt driven
TYPE OF FAN .....	Pusher
FAN DIAMETER.....	558 mm
COOLANT HEATER.....	1500W 240V

## FUEL SYSTEM

FUEL TYPE.....	Natural gas, propane vapor, liquid propane
CARBURETOR.....	Down Draft
SECONDARY FUEL REGULATOR.....	Standard
FUEL SHUT OFF SOLENOID .....	Standard
OPERATING FUEL PRESSURE.....	127-356 mm, 5" - 14" H <sub>2</sub> O

## ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR.....	12V 30 Amp
STATIC BATTERY CHARGER .....	12V 2 Amp, 10 Amp
RECOMMENDED BATTERY .....	Group 24F, 525CCA
SYSTEM VOLTAGE.....	12 Volts

SG050

## OPERATING DATA

### Generator Output Voltage 50 Hertz

	Standby Rating < 200 hrs/yr.				Prime Rating **			
	Nat Gas		Propane		Nat Gas		Propane	
Rating and Full Load Amps	kVA	Amps	kVA	Amps	kVA	Amps	kVA	Amps
220 Volt Single Phase	40	182	40	182	40	182	40	182
220 Volt Three Phase	50	131	50	131	50	131	50	131
380 Volt Three Phase	50	76	50	76	50	76	50	76
400 Volt Three Phase	50	72	50	72	50	72	50	72

### Motor Starting kVA

Instantaneous Voltage Dip %	10%	15%	20%	25%	30%	35%
High Voltage 380 - 400	27	42	55	69	82	96
Low Voltage 220	20	31	41	52	62	72
Single Phase	17	27	35	44	53	61

### Fuel Consumption

(Nat Gas in Cu. Meters/Hr.) (LPG in Liters/Hr.)

Applied Load in Percent of Stdby Rating	25%		50%		75%		100%	
Fuel	NG	LPG	NG	LPG	NG	LPG	NG	LPG
Consumption	5.13	7.55	9.43	13.88	12.90	19.00	16.54	24.36

### Cooling System

Coolant Capacity (Liters)	23.8
Heat Rejection to Coolant (Btu/Hr.)	173,798
Inlet Air to Radiator (Cu Meters/Min)	132.2
Max Operating Air Temp to Radiator	60° C
Max Operating Ambient Temp	50° C
Max External pressure drop on radiator	12.7 mm Water

### Combustion Air Requirements

Full Load Standby Rating Cu.M/Min	4.25
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### Exhaust

Exhaust Flow	9.76
Max Back Pressure	7.5 kPA, 56 mm Hg.
Exhaust Temp ° C	454

### Engine

Rated RPM	1500
HP @ Standby kVA Rating	63

### Maximum Power Deration

5% for every 10° C above - 25° C	43
1.1% for every 100 Meters above 183 Meters	183

\*\*Prime Rating: Prime Power is available for an unlimited number of hours per year in a variable load application. Variable load should not exceed a 70% average of the Prime Power Rating during any operating period of 250 hours. The total operating time at 100% Prime Power shall not exceed 250 hours per year.

Standby Rating: This rating should be applied where reliable utility power is available. A standby rated engine should be sized for a maximum of 80% average load factor and 200 hours operation per year. This includes less than 25 hours per year at the Standby Power Rating.

- 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 (N.G. and L.P.)
- Stainless Steel Flexible Exhaust Connection
- 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
- Electronic Governor

## OPTIONS

### ■ OPTIONAL COOLING SYSTEM ACCESSORIES

- Radiator Duct Adapter
- 208/240V Coolant Heater

### ■ OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines
- L.P. Liquid Withdrawal
- Automatic Gaseous Dual Fuel

### ■ OPTIONAL EXHAUST ACCESSORIES

- Single Exhaust Kit for Indoor Installations

### ■ OPTIONAL ELECTRICAL ACCESSORIES

- Battery Heater
- 2A Battery Charger
- 10A Dual Rate Battery Charger

### ■ OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Upsizing To 130kVA Brushless
- Alternator Strip Heater
- Alternator Tropicalization
- Main Line Circuit Breaker

### ■ CONTROL CONSOLE OPTIONS

- Digital Controller H100 (Bulletin 0172110SBY)

### ■ ADDITIONAL OPTIONAL EQUIPMENT

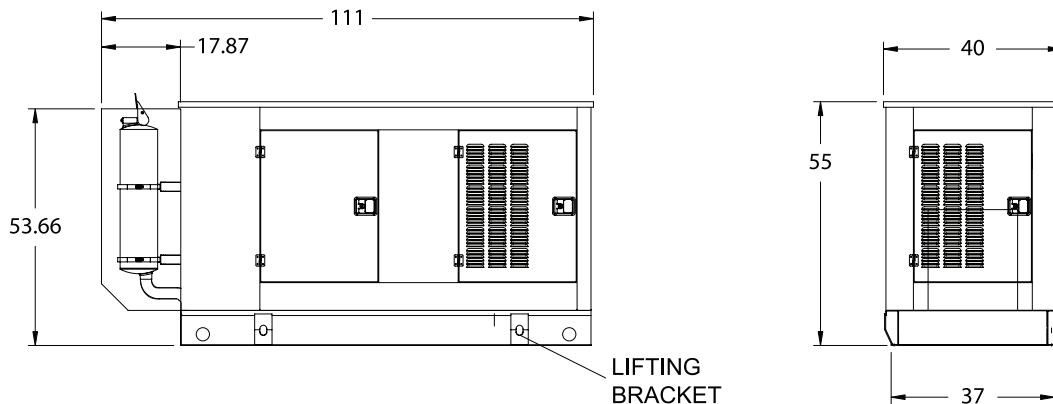
- Automatic Transfer Switch (GTS or HTS)
- 21 Light Remote Annunciator
- Remote Relay Panels
- Oil Make-Up System
- Oil Heater
- 5 Year Warranties
- Export Boxing
- GenLink® Communications Software

### ■ OPTIONAL ENCLOSURE

- Weather Protective
- Sound Attenuating
- Aluminum and Stainless Steel
- Enclosed Muffler

Distributed by:

Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Generac dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



UNITS: INCHES