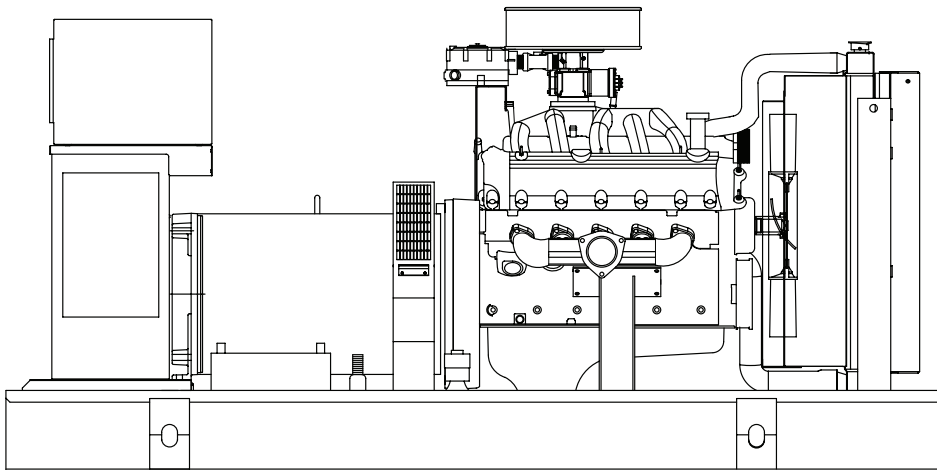


SG050

Liquid Cooled Gas Engine Generator Sets

Standby Power Rating

50KW 60 Hz / 50KVA 50 Hz



Power Matched

GENERAC 6.8 GN ENGINE

Naturally Aspirated

Meets EPA Emission Regulations

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
 - ✓ UL 2200 COMPLIANCE AVAILABLE
- **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).....	50 kW
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:
 - I²T 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.....	22 inches
COOLANT HEATER.....	1500W 120V

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.....	11" - 14" H ₂ 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

		STANDBY			
		SG050			
		<u>N.G.</u>	<u>Rated AMP</u>	<u>L.P.</u>	<u>Rated AMP</u>
GENERATOR OUTPUT VOLTAGE/KW-60Hz					
120/240V, 1-phase, 1.0 pf	NOTE: Consult your Generac dealer for additional voltages.	50	208	50	208
120/208V, 3-phase, 0.8 pf		50	173	50	173
120/240V, 3-phase, 0.8 pf		50	150	50	150
277/480V, 3-phase, 0.8 pf		50	75	50	75
600V, 3-phase, 0.8 pf		50	60	50	60
GENERATOR OUTPUT VOLTAGE/KVA-50Hz					
110/220V, 1-phase, 1.0 pf	NOTE: Consult your Generac dealer for additional voltages.	40	182	40	182
115/200V, 3-phase, 0.8 pf		50	144	50	144
100/200V, 3-phase, 0.8 pf		50	144	50	144
231/400V, 3-phase, 0.8 pf		50	72	50	72
MOTOR STARTING KVA					
Maximum at 35% instantaneous voltage dip with standard alternator—50/60 Hz		240V		480V	
with optional alternator—50/60 Hz		75/90 172/206		100/120 229/275	
FUEL		N.G.		L.P.	
Fuel consumption—60 Hz—100% Load* ft. ³ hr. / m ³ hr.		650 / 17.9		260 / 7.36	
Fuel consumption—50 Hz—100% Load* ft. ³ hr. / m ³ hr.		540 / 15.3		216 / 6.1	
COOLING					
Coolant capacity	System - lit. (US gal.)		23.7 (6.3)		
	Engine - lit. (US gal.)		12.3 (3.3)		
	Radiator - lit. (US gal.)		11.4 (3.0)		
Coolant flow/min.	60 Hz - lit. (US gal.)		148 (39)		
	50 Hz - lit. (US gal.)		124 (33)		
Heat rejection to coolant	BTU/hr.		182,000		
Inlet air	60 Hz - m ³ /min.(cfm)		159 (5600)		
	50 Hz - m ³ /min.(cfm)		132 (4667)		
Max. operating air temp onto radiator***	°F		140		
Max. operating ambient temp***	°F		120		
Max. external pressure drop on radiator	in. H ₂ O		0.5		
COMBUSTION AIR REQUIREMENTS					
Flow at rated power	60 Hz - m ³ /min.(cfm)		4.5 (160)		
	50 Hz - m ³ /min.(cfm)		4.0 (140)		
EXHAUST					
Exhaust flow at rated output	60 Hz—m ³ /min.(cfm)		12.9 (455)		
	50 Hz - m ³ /min.(cfm)		10.8 (380)		
Max recommended back pressure	Kpa(Hg)		10 (2.9)		
Exhaust temp at rated output	°C (°F)		537 (1000)		
Exhaust outlet size (2)	mm (in.)		64 (2.5)		
ENGINE					
Rated RPM	60 / 50 Hz		1800 / 1500		
HP at rated KW**	60 / 50 Hz		80 / 65		
Piston speed	60 Hz - m/sec. (ft./min.)		6.3 (1250)		
	50 Hz - m/sec. (ft./min.)		5.3 (1041)		
BMEP	60 / 50 Hz - psi		85 / 83		
DERATION FACTORS					
Temperature					
	5% for every 10°C above - °C		40		
	2.77% for every 10°F above - °F		104		
Altitude					
	1.1% for every 100 m above - m		1524		
	3.5% for every 1000 ft. above - ft.		5000		

* Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

** Refer to "Emissions Data Sheets" for maximum bHP for EPA and SCAQMD permitting purposes.

*** Values given are maximum temperatures to which power adjustments can be applied. Consult your Generac Power Systems representative if operating conditions exceed these maximums.

- 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 130kW 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.

