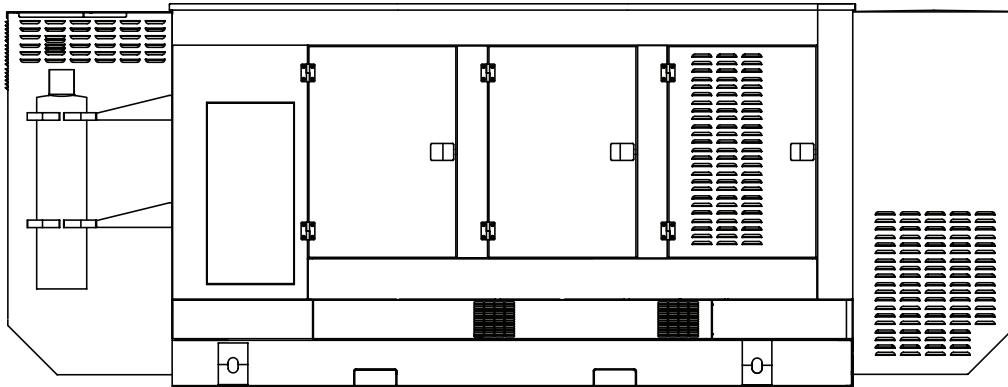


# SG200

## Liquid Cooled Gas Engine Generator Sets

Standby Power Rating  
200 kVA 50 Hz 3-phase  
160 kVA 50 Hz 1-phase

Prime Power Rating  
175 kVA 50 Hz 3-phase  
140 kVA 50 Hz 1-phase



Power Matched  
**GENERAC**  
**13.3GTA ENGINE**  
Turbocharged/Aftercooled

## 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, FREQUENCY COMPENSATED DIGITAL 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

SG200

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC DISTORTION .....	<3.0%
TELEPHONE INFLUENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	2
COUPLING .....	Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%

**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.**

## EXCITATION SYSTEM

PERMANENT MAGNET PILOT EXCITER.....	Eighteen-pole exciter ✓
	Magnetically coupled DC current ✓
	Mounted outboard of main bearing ✓
REGULATION.....	H100 Controller Digital ✓
	3 Phase Sensing, ± 0.25% regulation ✓

## GENERATOR FEATURES

- Revolving field heavy duty generator
- Directly connected to the engine
- 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
- PMG

## 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:
  - IFT 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.....	13.3GTA
CYLINDERS.....	6 in-line
DISPLACEMENT.....	13.3 Liter (811 cu. in.)
BORE .....	137 mm (5.39 in.)
STROKE.....	150 mm (5.91 in.)
COMPRESSION RATIO .....	10.5:1
INTAKE AIR .....	Turbocharged/Aftercooled
NUMBER OF MAIN BEARINGS .....	7
CONNECTING RODS .....	6-Carbon Steel
CYLINDER HEAD .....	Cast Iron with Overhead Valve
CYLINDER LINERS .....	Wet/Replaceable
IGNITION.....	Altronic CD1
PISTONS.....	Heat-Resistant Alloy with 4 Rings
CRANKSHAFT .....	Induction-Hardened, Die-Forged Carbon Steel

## VALVE TRAIN

LIFTER TYPE .....	Solid
INTAKE VALVE MATERIAL.....	Special Heat Resistant Steel
EXHAUST VALVE MATERIAL .....	Inconel Alloy High Temp.
HARDENED VALVE SEATS .....	High Temp. Alloy Stellite Faced

## ENGINE GOVERNOR

ELECTRONIC .....	Standard
STEADY STATE REGULATION.....	±0.25%

## LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear Driven
OIL FILTER.....	Full flow, cartridge
CRANKCASE CAPACITY.....	27 Liters (7.13 gal.)

## COOLING SYSTEM

TYPE OF SYSTEM .....	Pressurized, closed recovery
WATER PUMP.....	Pre-lubed, self-sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES.....	6
DIAMETER OF FAN .....	762 mm
COOLANT HEATER .....	(1) 240V, 2000 W

## FUEL SYSTEM

FUEL	
<input type="checkbox"/> Natural Gas.....	Standard
CARBURETOR.....	Down draft
SECONDARY FUEL REGULATOR .....	Nat. Gas
AUTOMATIC FUEL LOCKOFF SOLENOID.....	Standard
OPERATING FUEL PRESSURE.....	180-360 mm, 7" - 15" H <sub>2</sub> O

## ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR.....	20 Amps at 24 V
STARTER MOTOR .....	24 V
RECOMMENDED BATTERY.....	(2) - 12 V, 925 CCA, 31
GROUND POLARITY .....	Negative

## SG200

### 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	160	727	160	727	140	636	140	636
220 Volt Three Phase	200	525	200	525	175	459	175	459
380 Volt Three Phase	200	304	200	304	175	266	175	266
400 Volt Three Phase	200	289	200	289	175	253	175	253

#### Motor Starting kVA

Instantaneous Voltage Dip %	10%	15%	20%	25%	30%	35%
High Voltage 380 - 400	150	224	298	374	448	522
Low Voltage 220	112	168	224	280	336	384
Single Phase	95	143	190	238	286	326

#### 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	21.77		40.03		54.78		70.23	

#### Cooling System

Coolant Capacity (Liters)	29.1
Heat Rejection to Coolant (Btu/Hr.)	738,048
Inlet Air to Radiator (Cu Meters/Min)	410.6
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	20.39
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#### Exhaust

Exhaust Flow	65.28
Max Back Pressure	7.5 kPA, 56 mm Hg.
Exhaust Temp ° C	741

#### Engine

Rated RPM	1500
HP @ Standby kVA Rating	253

#### Maximum Power Deration

5% for every 10° C above - 25° C	43
1.1% for every 100 Meters above 183 Meters	1067

\*\*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
- Isochronous Governor

- Fuel Lockoff Solenoid
- Secondary Fuel Regulator
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 24 Volt, Solenoid-Activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console

## OPTIONS

### OPTIONAL COOLING SYSTEM ACCESSORIES

- Radiator Duct Adapter

### OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines

### OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer

### OPTIONAL ELECTRICAL ACCESSORIES

- Battery, (2) - 12 Volt, 135 A.H., 4DLT
- Battery, (2) - 12 Volt, 225 A.H., 8D
- Battery Heater
- 2A Battery Charger
- 10A Dual Rate Battery Charger

### OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Upsizing
- Alternator Strip Heater
- Alternator Tropicalization
- Main Line Circuit Breaker

### CONTROL CONSOLE OPTIONS

- Digital controller H100 Panel (See Bulletin 0172110SBY)

### ADDITIONAL OPTIONAL EQUIPMENT

- Automatic Transfer Switch
- 21 Light Remote Annunciator
- Remote Relay Panels
- Unit Vibration Isolators
- Oil Make-Up System
- Oil Heater
- Export Boxing
- GenLink® Communications Software

### OPTIONAL ENCLOSURES

- Weather Protective
- Sound Attenuated
- 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.

