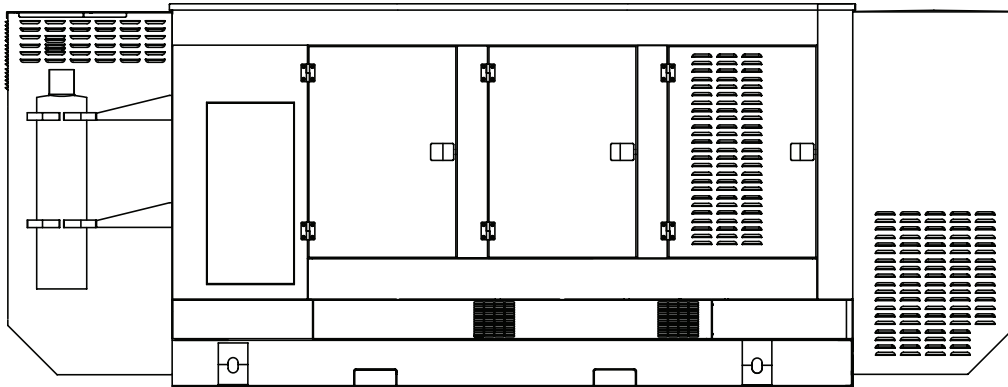


SG250

Liquid Cooled Gas Engine Generator Sets

Standby Power Rating
250 kVA 50 Hz 3-phase

Prime Power Rating
210 kVA 50 Hz 3-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

SG250

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 ✓

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:
 - 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	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	8
DIAMETER OF FAN	990 mm
COOLANT HEATER	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, 10" - 15" H ₂ 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

SG250

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 not available	-	-	-	-	-	-	-	-
220 Volt Three Phase	250	656	250	656	210	551	210	551
380 Volt Three Phase	250	380	250	380	210	319	210	319
400 Volt Three Phase	250	361	250	361	210	303	210	303

Motor Starting kVA

Instantaneous Voltage Dip %	10%	15%	20%	25%	30%	35%
High Voltage 380 - 400	210	316	422	526	632	738
Low Voltage 220	158	237	316	395	474	554
Single Phase	-	-	-	-	-	-

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	26.16	-	48.10	-	65.82	-	84.38	-

Cooling System

Coolant Capacity (Liters)	56.8
Heat Rejection to Coolant (Btu/Hr.)	886,848
Inlet Air to Radiator (Cu Meters/Min)	450.2
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	30.02
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Exhaust

Exhaust Flow	101.11
Max Back Pressure	7.5 kPA, 56 mm Hg.
Exhaust Temp ° C	793

Engine

Rated RPM	1915
HP @ Standby kVA Rating	316

Maximum Power Deration

5% for every 10° C above - 25° C	43
1.1% for every 100 Meters above 183 Meters	1372

**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 (N.G.)
- 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 (H100)

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 *see specification 0172110SBY*

ADDITIONAL OPTIONAL EQUIPMENT

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

OPTIONAL ENCLOSURES

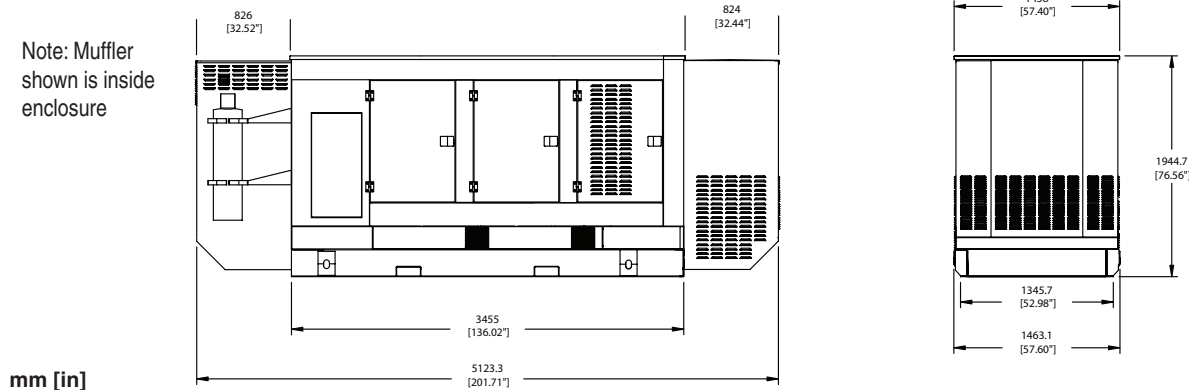
- Weather Protective
- Sound Attenuated
- Aluminum and Stainless Steel
- Enclosed Muffler

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.

Sound Attenuated Enclosure

Note: Muffler shown is inside enclosure



Reference Install Drawing:
OF9953STD
OF9954SAE