

# SG150

## Liquid Cooled Gas Engine Generator Sets

### Standby Power Rating

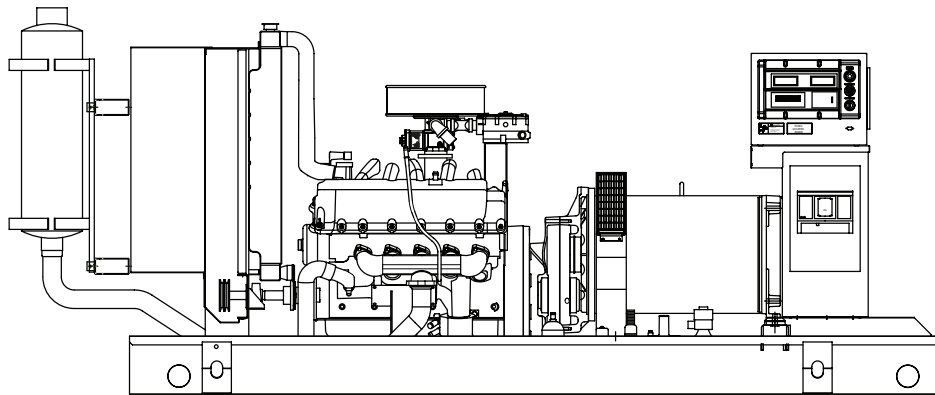
150 kVA 50 Hz 3-phase

120 kVA 50 Hz 1-phase

### Prime Power Rating

120 kVA 50 Hz 3-phase

96 kVA 50 Hz 1-phase



Power Matched

**GENERAC 6.8GN ENGINE**

Naturally Aspirated - Gear Driven

## 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

SG150

## GENERATOR SPECIFICATIONS

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

**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.....	6.3 Liters

## ENGINE COOLING SYSTEM

TYPE .....	Closed
WATER PUMP.....	Belt driven
NUMBER OF FAN BLADES.....	7
FAN DIAMETER.....	584 mm
FAN MODE.....	Puller
COOLANT HEATER.....	1500W 240V

## FUEL SYSTEM

FUEL TYPE.....	Natural gas, propane vapor
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
RECOMMENDED BATTERY .....	Group 24F, 525CCA
SYSTEM VOLTAGE.....	12 Volts

## SG150

### 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	120	545	120	545	96	436	96	436
220 Volt Three Phase	150	394	150	394	120	315	120	315
380 Volt Three Phase	150	228	150	228	120	182	120	182
400 Volt Three Phase	150	217	150	217	120	173	120	173

#### Motor Starting kVA

Instantaneous Voltage Dip %	10%	15%	20%	25%	30%	35%
High Voltage 380 - 400	106	159	212	266	318	371
Low Voltage 220	80	119	159	199	239	278
Single Phase	68	101	135	169	203	237

#### 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	17.38	25.60	31.96	47.07	43.73	64.41	56.07	82.58

#### Cooling System

Coolant Capacity (Liters)	25.0
Heat Rejection to Coolant (Btu/Hr.)	589,248
Inlet Air to Radiator (Cu Meters/Min)	147.2
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	9.49
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#### Exhaust

Exhaust Flow	26.29
Max Back Pressure	7.5 kPA, 56 mm Hg.
Exhaust Temp ° C	604

#### Engine

Rated RPM	3000
HP @ Standby kVA Rating	190

#### Maximum Power Deration

5% for every 10° C above - 25° C	25
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
- Isochronous Governor
- 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
- 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
- Liquid Withdrawal LPG

### 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

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