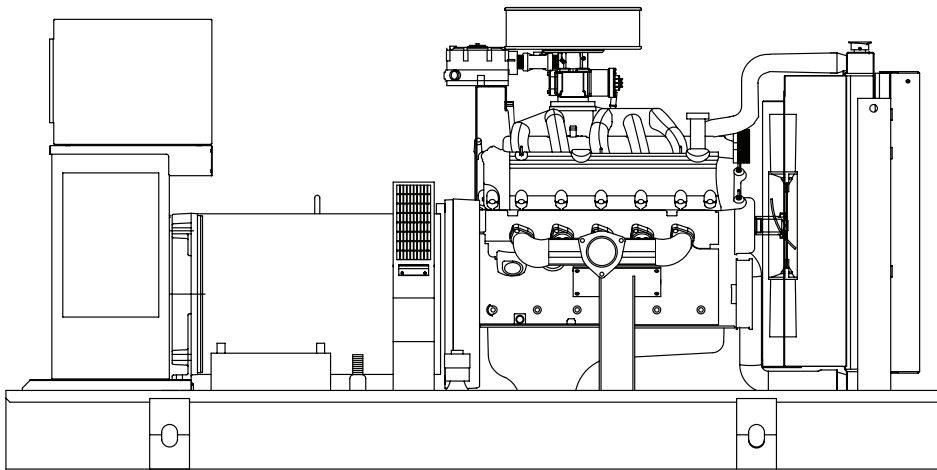


# SG070

## Liquid Cooled Gas Engine Generator Sets

Standby Power Rating

70KW 60 Hz / 70KVA 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

SG070

## 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).....	70 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:
  - 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<sup>®</sup> 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<sup>®</sup>.

## 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 <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

## SG070

### OPERATING DATA

		<b>STANDBY</b>			
		<b>SG070</b>			
<b>GENERATOR OUTPUT VOLTAGE/KW-60Hz</b>		<u>N.G.</u>	<u>Rated AMP</u>	<u>L.P.</u>	<u>Rated AMP</u>
120/240V, 1-phase, 1.0 pf		56	233	56	233
120/208V, 3-phase, 0.8 pf	NOTE: Consult your Generac dealer for additional voltages.	70	243	70	243
120/240V, 3-phase, 0.8 pf		70	210	70	210
277/480V, 3-phase, 0.8 pf		70	105	70	105
600V, 3-phase, 0.8 pf		70	84	70	84
<b>GENERATOR OUTPUT VOLTAGE/KVA-50Hz</b>		<u>N.G.</u>	<u>Rated AMP</u>	<u>L.P.</u>	<u>Rated AMP</u>
110/220V, 1-phase, 1.0 pf	NOTE: Consult your Generac dealer for additional voltages.	56	255	56	255
115/200V, 3-phase, 0.8 pf		70	202	70	202
100/200V, 3-phase, 0.8 pf		70	202	70	202
231/400V, 3-phase, 0.8 pf		70	101	70	101
<b>MOTOR STARTING KVA</b>					
Maximum at 35% instantaneous voltage dip with standard alternator—50/60 Hz			<b>240V</b>		<b>480V</b>
with optional alternator—50/60 Hz			128/154		171/205
			172/206		229/275
<b>FUEL</b>		<u>N.G.</u>		<u>L.P.</u>	
Fuel consumption—60 Hz—100% Load* ft. <sup>3</sup> hr. / m <sup>3</sup> hr.			867 / 24.6		348 / 9.9
Fuel consumption—50 Hz—100% Load* ft. <sup>3</sup> hr. / m <sup>3</sup> hr.			694 / 19.6		279 / 7.9
<b>COOLING</b>					
Coolant capacity	System - lit. (US gal.)		23.7 (6.3)		
	Engine - lit. (US gal.)		12.3 (3.3)		
Coolant flow/min.	Radiator - lit. (US gal.)		11.4 (3.0)		
	60 Hz - lit. (US gal.)		148 (39)		
Heat rejection to coolant	50 Hz - lit. (US gal.)		124 (33)		
	BTU/hr.		255,000		
Inlet air	60 Hz - m <sup>3</sup> /min.(cfm)		159 (5600)		
	50 Hz - m <sup>3</sup> /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 <sub>2</sub> O			0.5		
<b>COMBUSTION AIR REQUIREMENTS</b>					
Flow at rated power 60 Hz - m <sup>3</sup> /min.(cfm)			6.0 (213)		
50 Hz - m <sup>3</sup> /min.(cfm)			4.8 (169)		
<b>EXHAUST</b>					
Exhaust flow at rated output 60 Hz—m <sup>3</sup> /min.(cfm)			19 (679.5)		
50 Hz - m <sup>3</sup> /min.(cfm)			15 (538.2)		
Max recommended back pressure Kpa(Hg)			10 (2.9)		
Exhaust temp at rated output °C (°F)			677 (1250)		
Exhaust outlet size (2) mm (in.)			64 (2.5)		
<b>ENGINE</b>					
Rated RPM 60 / 50 Hz			1800 / 1500		
HP at rated KW** 60 / 50 Hz			107 / 85		
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			113.1 / 107.5		
<b>DERATION FACTORS</b>					
Temperature					
5% for every 10°C above - °C			25		
2.77% for every 10°F above - °F			77		
Altitude					
1.1% for every 100 m above - m			183		
3.5% for every 1000 ft. above - ft.			600		

\* 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

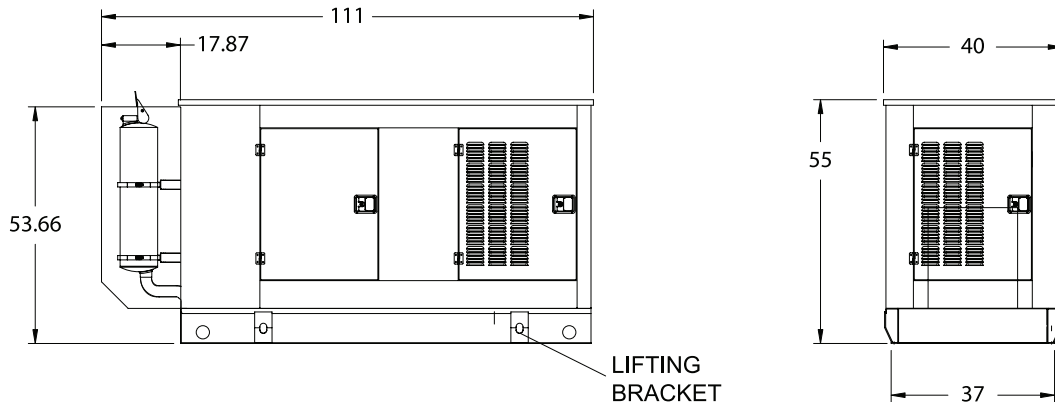
- Automatic Transfer Switch (GTS or HTS)
- 21 Light Remote Annunciator
- Remote Relay Panels
- Oil Make-Up System
- Oil Heater
- 5 Year Warranties
- Export Boxing
- GenLink® Communications Software

### ■ 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.



UNITS: INCHES