

SG050 SG060

Liquid Cooled Gas Engine Generator Sets

Standby Power Rating

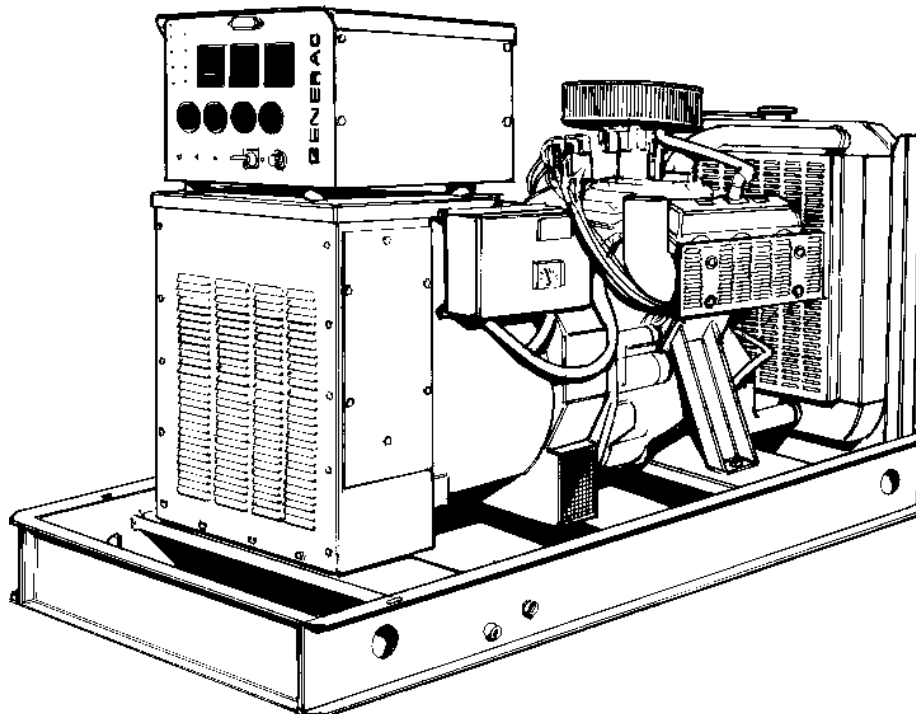
50KW 60 Hz / 50KVA 50 Hz

60KW 60 Hz / 60KVA 50 Hz

Prime Power Rating

40KW 60 Hz / 40KVA 50 Hz

40KW 60 Hz / 45KVA 50 Hz



Power Matched

GENERAC 5.7GN ENGINE

Naturally Aspirated

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, 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®

POWER SYSTEMS, INC.

APPLICATION & ENGINEERING DATA

SG050 / 060

GENERATOR SPECIFICATIONS

TYPE	Four-pole, revolving field
ROTOR INSULATION	Class H
STATOR INSULATION	Class H
TOTAL HARMONIC DISTORTION	<3%
TELEPHONE INTERFERENCE FACTOR (TIF)	<50
ALTERNATOR	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED)	1
COUPLING	Direct, Flexible Disc
LOAD CAPACITY (STANDBY)	100%
LOAD CAPACITY (PRIME)	110%

NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN6271.

EXCITATION SYSTEM

- BRUSHLESS Magnetically coupled DC current ✓
 - Eight-pole exciter w/ battery-driven field boost ✓
 - Mounted outboard of main bearing ✓
- PERMANENT MAGNET EXCITER Eighteen pole exciter ✓
 - Magnetically coupled DC current ✓
 - Mounted outboard of main bearing ✓
- REGULATION Solid-state ✓
 - ±1% regulation ✓

GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets the temperature rise standards for class "F" insulation as defined by NEMA MG1-32.6, while the insulation system meets the requirements for the higher class "H" rating.
- All prototype models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- All prototype models are tested for motor starting ability by measuring the instantaneous voltage dip with a waveform data acquisition system.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-32.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

ENGINE SPECIFICATIONS

MAKE	GENERAC
MODEL	5.7GN
CYLINDERS	V-8
DISPLACEMENT	5.7 Liter (350 cu. in.)
BORE	101.6 mm (4.00 in.)
STROKE	88 mm (3.48 in.)
COMPRESSION RATIO	9.4:1
INTAKE AIR	Naturally Aspirated
NUMBER OF MAIN BEARINGS	5
CONNECTING RODS	8 PM Steel
CYLINDER HEAD	Cast Iron
PISTONS	8-Notched Head, Aluminum Alloy
CRANKSHAFT	Cast

VALVE TRAIN

LIFTER TYPE	Hydraulic Roller
INTAKE VALVE MATERIAL	Stainless Steel
EXHAUST VALVE MATERIAL	Stellite Faced
HARDENED VALVE SEATS	Yes

ENGINE GOVERNOR

- ELECTRONIC Standard
- FREQUENCY REGULATION, NO-LOAD TO FULL LOAD . ±0.5%
- STEADY STATE REGULATION ±0.25%

LUBRICATION SYSTEM

TYPE OF OIL PUMP	Gear
OIL FILTER	Full flow, cartridge
CRANKCASE CAPACITY Lit. (qts.)	4.7 (5.0)

COOLING SYSTEM

TYPE OF SYSTEM	Pressurized, closed recovery
WATER PUMP	Pre-lubed, self-sealing
TYPE OF FAN	Pusher
NUMBER OF FAN BLADES	10
DIAMETER OF FAN mm(in.)	559 (22.0)
COOLANT HEATER	120V, 1000 W

FUEL SYSTEM

- FUEL
- Natural Gas or L.P. Vapor Standard
- L.P. Liquid Withdrawal Optional
- CARBURETOR Down draft || SECONDARY FUEL REGULATOR .. Nat. Gas or L.P. Vapor System | |
| HOT WATER VAPORIZER | L.P. Liquid Withdrawal System |
| AUTOMATIC FUEL LOCKOFF SOLENOID | Standard |
| OPERATING FUEL PRESSURE VAPOR SYSTEMS | 7" to 14" H₂O |

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR	15 Amps @ 12V
STARTER MOTOR	12 V
RECOMMENDED BATTERY	(1) - 12 V, 90 A.H., 27F
GROUND POLARITY	Negative

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OPERATING DATA

	STANDBY								PRIME							
	SG050				SG060				SG050				SG060			
	kW	AMP	NG kW	AMP	LP kW	AMP	kW	AMP	NG kW	AMP	LP kW	AMP				
GENERATOR OUTPUT VOLTAGE/KW—60Hz, 120/240 1-phase, 1.0 pf 120/208V, 3-phase, 0.8 pf 120/240V, 3-phase, 0.8 pf 277/480V, 3-phase, 0.8 pf 600V, 3-phase, 0.8 pf	NOTE: Consult your Generac dealer for additional voltages.															
GENERATOR OUTPUT VOLTAGE/KVA-50Hz 110/220V, 1-phase, 1.0 pf 115/200V, 3-phase, 0.8 pf 100/200V, 3-phase, 0.8 pf 231/400V, 3-phase, 0.8 pf	NOTE: Consult your Generac dealer for additional voltages.															
MOTOR STARTING KVA with standard alternator 50 / 60 Hz with optional alternator 50 / 60 Hz	<u>231/240</u> 83/100 234/281	<u>400/480</u> 94/113 276/331	<u>231/240</u> 100/120 234/281	<u>400/480</u> 117/141 276/331	<u>231/240</u> 83/100 234/281	<u>400/480</u> 94/113 276/331	<u>231/240</u> 100/120 234/281	<u>400/480</u> 117/141 276/331	<u>231/240</u> 83/100 234/281	<u>400/480</u> 94/113 276/331	<u>231/240</u> 100/120 234/281	<u>400/480</u> 117/141 276/331				
FUEL Natural Gas—60 Hz Liquid Propane—60 Hz	Load ft ³ /hr. m ³ /hr. ft ³ /hr. m ³ /hr.	<u>50%</u> 413 11.7	<u>75%</u> 515 14.6	<u>100%</u> 655 18.6	<u>50%</u> 495 14.0	<u>75%</u> 625 17.7	<u>100%</u> 785 22.2	<u>50%</u> 340 9.6	<u>75%</u> 420 11.9	<u>100%</u> 530 15.0	<u>50%</u> 415 11.8	<u>75%</u> 490 13.9	<u>100%</u> 625 17.7			
COOLING Coolant capacity System - lit. (US gal.) Coolant flow/min. 60 Hz - lit. (US gal.) 50 Hz - lit. (US gal.) Heat rejection to coolant 60 Hz - BTU/hr. Inlet air 60 Hz - m ³ /min. (cfm) 50 Hz - m ³ /min. (cfm) Max. operating air temp onto radiator *see note °C (°F) Max. operating ambient temp *see note °C (°F)	18.9 (5) 90.8 (24) 75.6 (20) 213,000 207.6 (7330) 184 (6500) 60 (140) 50 (122)	18.9 (5) 90.8 (24) 75.6 (20) 255,000 207.6 (7330) 184 (6500) 60 (140) 50 (122)	18.9 (5) 90.8 (24) 75.6 (20) 175,000 207.6 (7330) 184 (6500) 60 (140) 50 (122)	18.9 (5) 90.8 (24) 75.6 (20) 192,000 207.6 (7330) 184 (6500) 60 (140) 50 (122)												
COMBUSTION AIR REQUIREMENTS Flow at rated power 60 Hz - m ³ /min. (cfm) 50 Hz - m ³ /min. (cfm)	4.1 (145) 3.3 (116)	4.9 (173) 4.1 (148)	3.25 (115) 2.63 (93)	3.48 (123) 2.75 (97)												
EXHAUST Exhaust flow at rated output 60 Hz - m ³ /min. (cfm) Max recommended back pressure - "Hg Exhaust temp at rated output 60 Hz - °C (°F) Exhaust outlet size N.P.T. (female)	13.56 (479) 1.5 677 (1250) (2) - 2.5"	16.7 (590) 1.5 732 (1350) (2) - 2.5"	9.7 (342) 1.5 621 (1150) (2) - 2.5"	11.2 (395) 1.5 660 (1220) (2) - 2.5"												
ENGINE Rated RPM 60 Hz 50 Hz HP at rated KW 60 Hz 50 Hz Piston speed - m/min (ft/min) 60 Hz m/min (ft/min) 50 Hz BMEP - psi 60 Hz 50 Hz	1800 1500 80 63 318 (1044) 265 (870) 101 95	NG 1800 1500 91 72 318 (1044) 265 (870) 116 109	LP 1800 1500 99 77 318 (1044) 265 (870) 125 118	1800 1500 73 57 318 (1044) 265 (870) 83 77	NG 1800 1500 73 57 318 (1044) 265 (870) 92 87	LP 1800 1500 78 62 318 (1044) 265 (870) 99 94										
POWER ADJUSTMENTS FOR AMBIENT CONDITIONS Temperature -5% for every 10°C above - °C -2.77% for every 10°F above - °F Altitude -1.1% for every 100 m above - m -3.5% for every 1000 ft. above - ft.	25 77 150 500	25 77 150 500	25 77 150 500	25 77 150 500												

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

STANDARD ENGINE & SAFETY FEATURES

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- 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.)
- 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
- Isochronous Governor
- Air Duct Adapter

OPTIONS

■ OPTIONAL COOLING SYSTEM ACCESSORIES

- 208/240V Coolant Heater

■ OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines

■ OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer (Std. on enclosed gensets)
- Single Exhaust Kit for Indoor Installations

■ OPTIONAL ELECTRICAL ACCESSORIES

- Battery, 12 Volt, 90 A.H., 27F
- Battery Heater
- 2A Battery Charger
- 10A Dual Rate Battery Charger
- Main Line Circuit Breaker

■ OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Upsizing to 125kW
- Alternator Strip Heater
- Alternator Tropicalization
- Voltage Changeover Switch

■ CONTROL CONSOLE OPTIONS

- Analog Control "C" Panel (Bulletin 0151160SBY)
- Analog/Digital Control "E" Panel (Bulletin 0161310SBY)

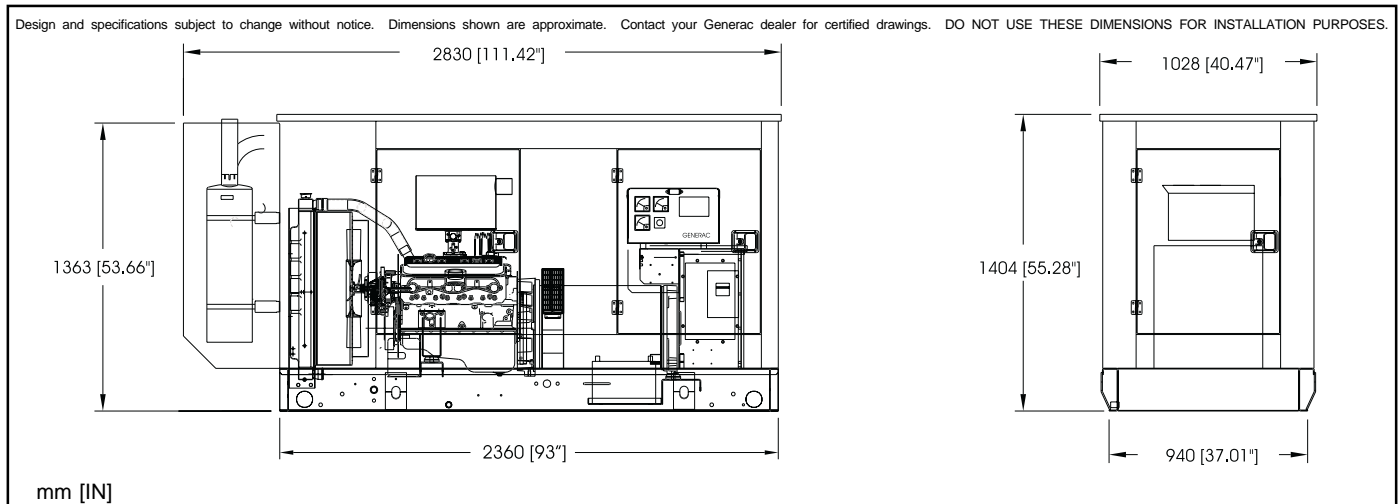
■ ADDITIONAL OPTIONAL EQUIPMENT

- Automatic Transfer Switch
- 3 Light Remote Annunciator
- 5 Light Remote Annunciator
- 20 Light Remote Annunciator
- Remote Relay Panel
- Unit Vibration Isolators
- Oil Make-Up System
- Oil Heater
- 5 Year Warranties
- Export Boxing
- GenLink® Communications Software

■ OPTIONAL ENCLOSURES

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

Distributed by:



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