

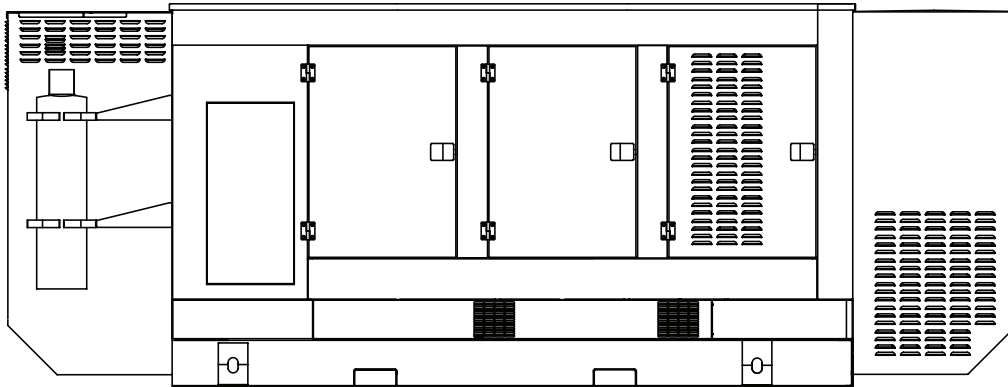
SG150 SG175

Liquid Cooled Gas Engine Generator Sets

Standby Power Rating

150KW 60 Hz / 150KVA 50 Hz

175KW 60 Hz / 175KVA 50 Hz



Power Matched

GENERAC

13.3GTA ENGINE

Turbocharged/Aftercooled

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
 - ✓ UL2200 COMPLIANCE AVAILABLE
- **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

SG150/SG175

GENERATOR SPECIFICATIONS

TYPE	Four-pole, revolving field
ROTOR INSULATION	Class H
STATOR INSULATION	Class H
TOTAL HARMONIC DISTORTION	<3%
TELEPHONE INTERFERENCE FACTOR (TIF)	<30
SHORT CIRCUIT CURRENT	300%
ALTERNATOR	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED)	1
COUPLING	Direct, 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 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:
 - 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	6
DIAMETER OF FAN	30 in.
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 SYSTEMS	7" to 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

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).

SG150/SG175

OPERATING DATA

	STANDBY			
	SG150		SG175	
	<u>N.G.</u>	<u>Rated AMP</u>	<u>N.G.</u>	<u>Rated AMP</u>
GENERATOR OUTPUT VOLTAGE/KW-60Hz				
120/240V, 1-phase, 1.0 pf	150	625	175	729
120/208V, 3-phase, 0.8 pf	150	521	175	608
120/240V, 3-phase, 0.8 pf	150	452	175	527
277/480V, 3-phase, 0.8 pf	150	226	175	263
600V, 3-phase, 0.8 pf	150	181	175	211
NOTE: Consult your Generac dealer for additional voltages.				
GENERATOR OUTPUT VOLTAGE/KVA-50Hz				
110/220V, 1-phase, 1.0 pf	120	545	140	636
115/200V, 3-phase, 0.8 pf	150	434	175	506
100/200V, 3-phase, 0.8 pf	150	434	175	506
231/400V, 3-phase, 0.8 pf	150	217	175	253
NOTE: Consult your Generac dealer for additional voltages.				
MOTOR STARTING KVA				
Maximum at 35% instantaneous voltage dip with standard alternator—50/60 Hz	<u>240V</u>	<u>480V</u>	<u>240V</u>	<u>480V</u>
with optional alternator—50/60 Hz	290/348	387/464	408/490	544/653
	750/900	1130/1356	750/900	1130/1356
FUEL	<u>N.G.</u>		<u>N.G.</u>	
Fuel consumption—60 Hz—100% Load*				
ft. ³ hr.	1850		2200	
m ³ hr.	52		62	
Fuel consumption—50 Hz—100% Load*				
ft. ³ hr.	1400		1675	
m ³ hr.	40		47	
COOLING				
Coolant capacity	System - lit. (US gal.)	29 (7.7)	29 (7.7)	
	Engine - lit. (US gal.)	21 (5.6)	21 (5.6)	
	Radiator - lit. (US gal.)	8 (2.1)	8 (2.1)	
Coolant flow/min.	60 Hz (US gal.)	170 (45)	170 (45)	
	50 Hz (US gal.)	142 (37.5)	142 (37.5)	
Heat rejection to coolant	BTU/hr	440,000	440,000	
Inlet air	60 Hz - m ³ /min. (cfm)	493 (17400)	493 (17400)	
	50 Hz - m ³ /min. (cfm)	410 (14500)	410 (14500)	
Max. operating air temp. onto radiator***	°C (°F)	60 (140)	60 (140)	
Max. operating ambient temp.***	°C (°F)	50 (122)	50 (122)	
Max. external pressure drop on rad.	in. H ₂ O	0.5	0.5	
COMBUSTION AIR REQUIREMENTS				
Flow at rated power	60 Hz - m ³ /min. (cfm)	10.1 (358)	11.1 (392)	
	50 Hz - m ³ /min. (cfm)	8.8 (312)	9.7 (341)	
EXHAUST				
Exhaust flow at rated output	60 Hz - m ³ /min. (cfm)	23.6 (833)	26.8 (945)	
	50 Hz - m ³ /min. (cfm)	20.6 (725)	23.3 (822)	
Maximum recommended back pressure	Kpa(Hg)	5.0 (1.5")	5.0 (1.5")	
Exhaust temperature at rated output	°F	1533	1542	
Exhaust outlet size	I.D. (flange)	4"	4"	
ENGINE				
Rated RPM	60 Hz / 50 Hz	1800 / 1500	1800 / 1500	
HP at rated KW**	60 Hz / 50 Hz	243 / 195	274 / 219	
Piston speed	60 Hz - m/min. (ft./min.)	541 (1773)	541 (1773)	
	50 Hz	451 (1477)	451 (1477)	
BMEP	60 Hz / 50 Hz - psi	128 / 145	150 / 146	
Temperature				
	3% for every 10°C above - °C	43	43	
	2.5% for every 10°F above - °F	110	110	
Altitude				
	0.8% for every 100 m above - m	3049	2287	
	2.5% for every 1000 ft. above - ft.	7500	6000	

* 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
- 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
- 5 Year Warranties
- 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.

