

SG020

SG025

Liquid Cooled Gas Engine Generator Sets

Standby Power Rating

20KW 60 Hz

25KW 60 Hz



Power Matched

GENERAC MMC 4G15 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

SG020 / SG025

GENERATOR SPECIFICATIONS

TYPE	Two-pole, revolving field
ROTOR INSULATION	Class F
STATOR INSULATION	Class F
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%

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 standards.

EXCITATION SYSTEM

DIRECT	DC excitation system ✓
	Low-velocity brushes and slip rings ✓
REGULATION	Solid-state ✓
	±2% regulation ✓

GENERATOR FEATURES

- Two 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.
- 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 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.
- Generac H-100 Digital Control Panel

ENGINE SPECIFICATIONS

MAKE	GENERAC
MODEL	MMC 4G15
CYLINDERS	4 in-line
DISPLACEMENT	1.5 Liter (91.5 cu. in.)
BORE	75.5 mm (2.97 in.)
STROKE	82 mm (3.23 in.)
COMPRESSION RATIO	9.4:1
INTAKE AIR	Naturally Aspirated
NUMBER OF MAIN BEARINGS	5
CONNECTING RODS	4-Drop forged steel
CYLINDER HEAD	S.O.H.C.
PISTONS	4-Aluminum Alloy
CRANKSHAFT	Drop Forged Steel

VALVE TRAIN

LIFTER TYPE	Rocker Arm Type
INTAKE VALVE MATERIAL	High Temperature Alloy Forged
EXHAUST VALVE MATERIAL	High Temperature Alloy Forged
VALVE SEATS	Replaceable

ENGINE GOVERNOR

<input type="checkbox"/> ELECTRONIC	Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD	Isochronous
STEADY STATE REGULATION	±0.25%

LUBRICATION SYSTEM

TYPE OF OIL PUMP	Gear
OIL FILTER	Full flow, cartridge
CRANKCASE CAPACITY	3.8 Liters (4 qts.)

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	380 mm (15.0 in.)
COOLANT HEATER	120V, 500 W

FUEL SYSTEM

FUEL	
<input type="checkbox"/> Natural Gas or L.P. Vapor	Standard
<input type="checkbox"/> L.P. Liquid Withdrawal	Optional
CARBURETOR	Down draft
SECONDARY FUEL REGULATOR	Nat. Gas or L.P. Vapor Systems
HOT WATER VAPORIZER	L.P. Liquid Withdrawal Systems
AUTOMATIC FUEL LOCKOFF SOLENOID	Standard
OPERATING FUEL PRESSURE VAPOR SYSTEMS	7" to 15" H ₂ O

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR	15 Amps at 12 V
STARTER MOTOR	12 V
RECOMMENDED BATTERY	(1) - 12 V, 530 CCA, 26F
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).

SG020 / SG025

OPERATING DATA

	STANDBY			
	SG020		SG025	
	<u>NG/LP</u>	<u>Rated AMP</u>	<u>NG/LP</u>	<u>Rated AMP</u>
GENERATOR OUTPUT VOLTAGE/KW-60Hz				
120/240V, 1-phase, 1.0 pf	20	83.3	25	104.2
120/208V, 3-phase, 0.8 pf	20	69.5	25	86.8
120/240V, 3-phase, 0.8 pf	20	60.2	25	75.3
277/480V, 3-phase, 0.8 pf	20	30.1	25	37.6
MOTOR STARTING KVA Maximum at 35% instantaneous voltage dip with standard alternator; 60 Hz		40		46
FUEL Fuel consumption—60 Hz—100% Load				
	<u>N.G.</u>	<u>L.P.</u>	<u>N.G.</u>	<u>L.P.</u>
ft. ³ /hr.	369	153	442	183
m ³ /hr.	10.4	4.3	12.5	5.2
COOLING				
Coolant capacity	System lit.(US gal.)	6.6 (2)		6.6 (2)
	Engine lit.(US gal.)	0.9 (0.25)		0.9 (0.25)
	Radiator lit.(US gal.)	6.6 (1.75)		6.6 (1.75)
Coolant flow/min.	60 Hz lit.(US gal.)	40 (10.6)		40 (10.6)
Heat rejection to coolant	60 Hz BTU/hr.	96,000		120,000
Cooling air flow	60 Hz m ³ /min. (cfm)	45 (1590)		45 (1590)
COMBUSTION AIR REQUIREMENTS				
Flow at rated power	60 Hz m ³ /min. (cfm)	1.8 (65)		2.3 (81)
EXHAUST				
Exhaust flow at rated output	60 Hz m ³ /min. (cfm)	6.0 (212)		7.3 (260)
Max. recommended back pressure	Kpa (Hg)	5.0 (1.5")		5.0 (1.5")
Exhaust temp. at rated output	°C (°F)	593 (1100)		635 (1175)
Exhaust outlet size	N.P.T. (female)	1.5"		1.5"
ENGINE				
Rated RPM	60 Hz	3600		3600
HP at rated KW	60 Hz	30		37
Piston speed	60 Hz m/min. (ft./min.)	590 (1937)		590 (1937)
BMEP (psi)	60 Hz - psi	78		97
POWER ADJUSTMENT FOR AMBIENT CONDITIONS				
Temperature				
	-3% for every 10°C above - °C	40		25
	-1.5% for every 10°F above - °F	104		77
Altitude				
	-3% for every 300 m above - m	913		150
	-3% for every 1000 ft. above - ft.	3000		500

STANDARD ENGINE & SAFETY FEATURES

SG020 / SG025

- 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
- Low Coolant Temperature

- Secondary Fuel Regulator (N.G. and L.P.)
- Low Fuel Pressure Alarm
- 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
- Radiator Duct Adapter
- Engine Block Heater

OPTIONS

OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines
- L.P. Liquid Withdrawal
- Automatic Gaseous Dual Fuel

OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer

OPTIONAL ELECTRICAL ACCESSORIES

- Battery, 12 Volt, 75 A.H., 27F
- Battery Heater
- 2A Battery Charger
- 10A Dual Rate Battery Charger

OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Strip Heater
- Alternator Tropicalization
- Main Line Circuit Breaker

CONTROL CONSOLE OPTIONS

- See Digital Controller H-100 specification 0172110SBY

ADDITIONAL OPTIONAL EQUIPMENT

- Automatic Transfer Switch
- 3 Light Remote Annunciator
- 5 Light Remote Annunciator
- 18 Light Remote Annunciator
- Alarm Relay Panels
- Unit Vibration Isolators (Pad/Spring)

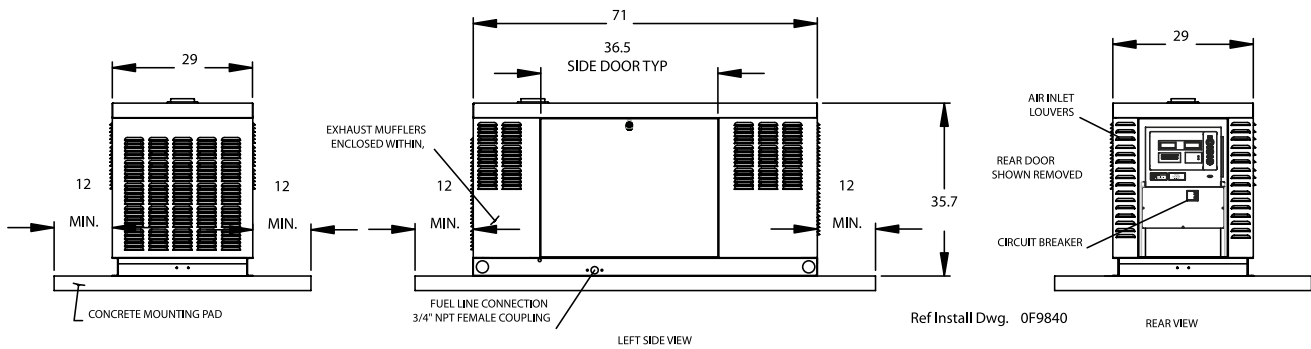
- Oil Make-Up System
- Oil Heater
- 5 Year Warranties
- Export Boxing
- Heavy Duty Air Cleaner
- Engine Block Heater

OPTIONAL ENCLOSURE

- 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.



mm [in]

WEIGHT: 1650 lbs.

GENERAC® POWER SYSTEMS, INC. • P.O. BOX 8 • WAUKESHA, WI 53187

262/544-4811 • FAX 262/544-4851

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