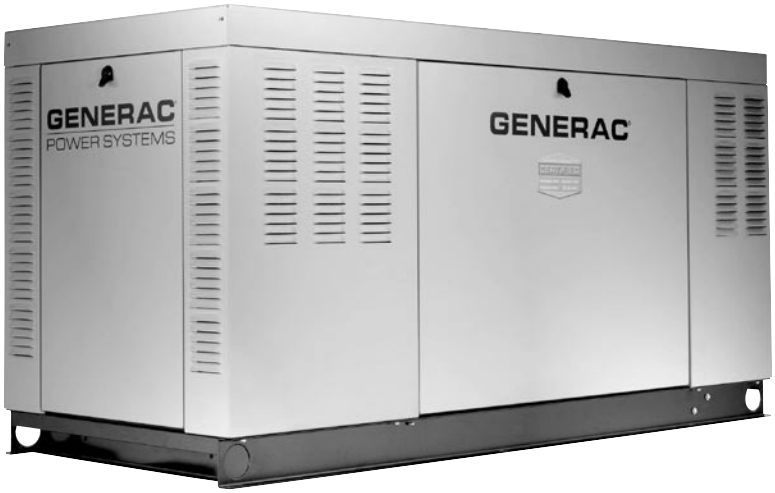
SG020
SG025

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

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

❒ 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
❒ Natural Gas or L.P. Vapor ..... Standard
❒ 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_2O

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).

OPERATING DATA

		STANDBY			
		SG020		SG025	
GENERATOR OUTPUT VOLTAGE/KW-60Hz		NG/LP	Rated AMP	NG/LP	Rated AMP
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		N.G.	L.P.	N.G.	L.P.
	ft.³/hr.	369	153	442	183
	m³/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 m³/min. (cfm)	45 (1590)		45 (1590)	
COMBUSTION AIR REQUIREMENTS					
Flow at rated power	60 Hz m³/min. (cfm)	1.8 (65)		2.3 (81)	
EXHAUST					
Exhaust flow at rated output	60 Hz m³/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

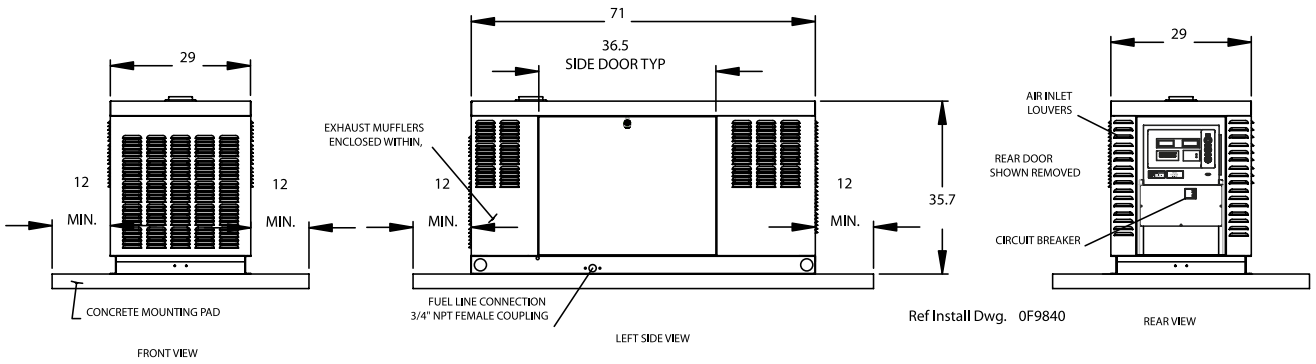
- ■ High Coolant Temperature Automatic Shutdown
- ■ Low Coolant Level Automatic Shutdown
- ■ Low Oil Pressure Automatic Shutdown
- ■ Overspeed Automatic Shutdown (Solid-state)
- ■ Crank Limiter (Solid-state)
- ■ Oil Drain Extension
- ■ Radiator Drain Extension
- ■ Factory-Installed Cool Flow Radiator
- ■ 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
  - ❍ Alluminum 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.



Ref Install Dwg. 0F9840

mm [in]

WEIGHT: 1650 lbs.

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

262/544-4811 • FAX 262/544-4851

Bulletin 0172510SBY / Printed in USA 12.05, rev: 01.06

© 2006 Generac Power Systems, Inc. All rights reserved. All specifications subject to change without notice.