

# SG035

## Liquid Cooled Gas Engine Generator Sets

### Standby Power Rating

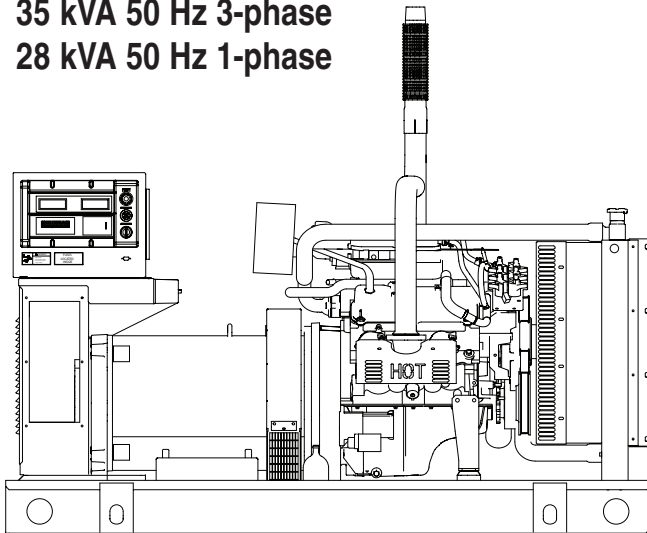
**35 kVA 50 Hz 3-phase**

**28 kVA 50 Hz 1-phase**

### Prime Power Rating

**35 kVA 50 Hz 3-phase**

**28 kVA 50 Hz 1-phase**



### **GENERAC 4.2L ENGINE**

**Naturally Aspirated  
Gaseous Fueled**

## STANDARD EQUIPMENT

- All input connections in one single area
- High coolant temperature shutdown
- Low oil pressure shutdown
- Low coolant level automatic shutdown
- Overspeed automatic shutdown
- Crank timer
- Exercise timer
- Oil drain extension
- Cool flow radiator
- Closed coolant recovery system
- UV/Ozone resistant hoses
- Watertight state of the art electrical connectors
- Mainline circuit breaker
- Radiator drain extension
- Battery charge alternator
- 2 Amp static battery charger
- Battery cables
- Battery rack
- Fan and belt guards
- Isochronous governor
- Flex fuel line

## FEATURES

- Innovative design and fully prototype tested
- UL2200 Listed
- Solid state frequency compensated voltage regulator
- Dynamic and static battery charger
- Sound attenuated acoustically designed enclosure
- Quiet test for low noise level exercise
- Acoustically designed engine cooling system
- High flow low noise factory engineered exhaust system
- State of the art digital control system with H100 digital control panel
- Watertight electrical connectors
- Rodent proof construction
- High efficiency, low distortion Generac designed alternator
- Vibration isolated from mounting base
- Matching Generac transfer switches engineered and tested to work as a system
- All components easily accessible for maintenance
- Electrostatically applied powder paint

# GENERAC®

# APPLICATION & ENGINEERING DATA

SG035

## GENERATOR SPECIFICATIONS

TYPE .....	Synchronous
ROTOR INSULATION.....	Class H
STATOR INSULATION.....	Class H
TOTAL HARMONIC DISTORTION.....	<5%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR OUTPUT LEADS 3 PHASE .....	4 wire
BEARINGS.....	Sealed Ball
COUPLING.....	Flexible Disc
LOAD CAPACITY (STANDBY RATING).....	100%
EXCITATION SYSTEM.....	Direct

**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
- 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

## 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® 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.....	V6
CYLINDERS .....	6
DISPLACEMENT.....	4.2 Liter
BORE (inches) .....	3.81
STROKE (inches).....	3.74
COMPRESSION RATIO.....	9.3:1
INTAKE AIR SYSTEM.....	Naturally Aspirated
VALVE SEATS (Int. & Exh.).....	Precision ground and hardened
LIFTER TYPE.....	Roller, Hydraulic

## GOVERNOR SPECIFICATIONS

TYPE .....	Electronic
FREQUENCY REGULATION.....	Isochronous
STEADY STATE REGULATION.....	± 0.25
ADJUSTMENTS FOR:	
Speed .....	Yes
Drop.....	Yes

## ENGINE LUBRICATION SYSTEM

OIL PUMP .....	Gear
OIL FILTER.....	Full flow spin-on cartridge
CRANKCASE CAPACITY.....	6 Quarts

## ENGINE COOLING SYSTEM

TYPE .....	Pressurized Closed
WATER PUMP FLOW .....	10.8 gal/min
FAN SPEED (RPM).....	875
FAN DIAMETER.....	558 mm
FAN MODE.....	Puller
COOLANT HEATER.....	1500W, 240V

## FUEL SYSTEM

FUEL TYPE .....	Natural gas, propane vapor
CARBURETOR.....	Down Draft
SECONDARY FUEL REGULATOR.....	Standard
FUEL SHUT OFF SOLENOID .....	Standard
OPERATING FUEL PRESSURE.....	127-356 mm, 5" - 14" H <sub>2</sub> O

## ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR.....	12V 30 Amp
STATIC BATTERY CHARGER .....	2 Amp
RECOMMENDED BATTERY .....	Group 26, 525CCA
SYSTEM VOLTAGE.....	12 Volts

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## OPERATING DATA

### Generator Output Voltage 50 Hertz

	Standby Rating < 200 hrs/yr.				Prime Rating **			
	Nat Gas		Propane		Nat Gas		Propane	
Rating and Full Load Amps	kVA	Amps	kVA	Amps	kVA	Amps	kVA	Amps
220 Volt Single Phase	28	127	28	127	28	127	28	127
220 Volt Three Phase	35	92	35	92	35	92	35	92
380 Volt Three Phase	35	53	35	53	35	53	35	53
400 Volt Three Phase	35	51	35	51	35	51	35	51

### Motor Starting kVA

Instantaneous Voltage Dip %	10%	15%	20%	25%	30%	35%
High Voltage 380 - 400	19.2	28.8	38.4	48	57.6	67.2
Low Voltage 220	14.4	21.6	28.8	36	43.2	50.4
Single Phase	12.24	18.36	24.48	30.6	36.72	42.84

### Fuel Consumption

(Nat Gas in Cu. Meters/Hr.) (LPG in Liters/Hr.)

Applied Load in Percent of Stdby Rating	25%		50%		75%		100%	
Fuel	NG	LPG	NG	LPG	NG	LPG	NG	LPG
Consumption	3.50	5.15	6.43	9.47	8.79	12.95	11.28	16.61

### Cooling System

Coolant Capacity (Liters)	11.4
Heat Rejection to Coolant (Btu/Hr.)	118,501
Inlet Air to Radiator (Cu Meters/Min)	56.1
Max Operating Air Temp to Radiator	60° C
Max Operating Ambient Temp	50° C
Max External pressure drop on radiator	12.7 mm Water

### Combustion Air Requirements

Full Load Standby Rating Cu.M/Min	2.55
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### Exhaust

Exhaust Flow	5.97
Max Back Pressure	7.5 kPA, 56 mm Hg.
Exhaust Temp ° C	468

### Engine

Rated RPM	1500
HP @ Standby kVA Rating	44

### Maximum Power Deration

5% for every 10° C above - 25° C	43
1.1% for every 100 Meters above 183 Meters	183

\*\*Prime Rating: Prime Power is available for an unlimited number of hours per year in a variable load application. Variable load should not exceed a 70% average of the Prime Power Rating during any operating period of 250 hours. The total operating time at 100% Prime Power shall not exceed 250 hours per year.

Standby Rating: This rating should be applied where reliable utility power is available. A standby rated engine should be sized for a maximum of 80% average load factor and 200 hours operation per year. This includes less than 25 hours per year at the Standby Power Rating.

# STANDARD ENGINE & SAFETY FEATURES

SG035

- 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
- Radiator Duct Adapter
- Fuel Lockoff Solenoid
- Secondary Fuel Regulator (N.G. and L.P.)
- Battery Charge Alternator
- Battery Cables
- Battery Box
- Vibration Isolation of Unit to Mounting Base
- 12 Volt, Solenoid-Activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Isochronous Governor
- Engine Block Heater
- Gas Detector
- H100 Control Panel
- 8-Function Relay Board

## ■ FUEL ACCESSORIES

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

## ■ ELECTRICAL ACCESSORIES

- Battery, 12 Volt, 90 A.H., 27F
- 10A Dual Rate Battery Charger

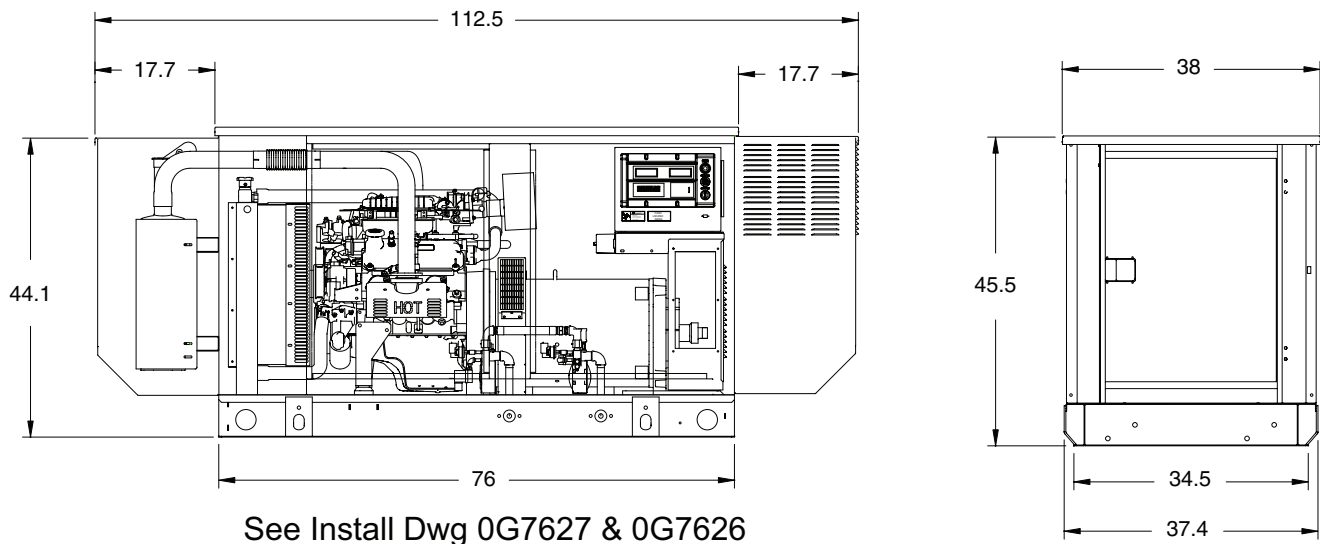
## ■ ALTERNATOR ACCESSORIES

- Alternator Upsizing to 60 kVA
- Main Line Circuit Breaker

## ■ ENCLOSURES

- Optional Aluminum Enclosure
- Enclosed Muffler

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.



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