

# Standby Power Rating

## 70 kW 60 Hz

### Liquid Cooled Gas Engine Generator Sets



**Quiet-Test Mode  
For Low Noise Exercise  
- 60 dB(A) at 23 feet**

#### **GENERAC 6.8L ENGINE**

Naturally Aspirated  
Gaseous Fueled

UL 2200 Listed

## 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
- Adjustable cranking timer
- Adjustable 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
- Oil drain extension to frame rail
- Radiator drain extension
- Battery charge alternator
- 2 Amp static battery charger
- Battery and battery cables
- Battery rack
- Fan and belt guards
- Isochronous governor

## FEATURES

- Innovative design and fully prototype tested
- UL2200 Listed
- Solid state frequency compensated digital 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
- Built-in kW, kVAR and power factor meters
- 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
- H-100 microprocessor control panel



# APPLICATION & ENGINEERING DATA

70 kW

## GENERATOR SPECIFICATIONS

TYPE .....	Synchronous
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC DISTORTION .....	<3.5%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR OUTPUT LEADS 3 PHASE .....	4 wire
BEARINGS .....	Sealed Ball
COUPLING .....	Flexible Disc
LOAD CAPACITY (STANDBY RATING) .....	70 kW
EXCITATION SYSTEM .....	Direct

**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.

## 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)	Current (all phases)
Power factor	kW
kVAR	Transfer switch status
Engine speed	Low fuel pressure
Run hours	Service reminders
Fault history	Oil pressure
Coolant temperature	Time and date
Low oil pressure shutdown	High coolant temperature shutdown
Oversvoltage	Overspeed
Low coolant level	Low coolant level
Not in auto position (flashing light)	
- 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 .....	V Type
CYLINDERS .....	10
DISPLACEMENT .....	6.8 Liter
BORE .....	3.55
STROKE .....	4.17
COMPRESSION RATIO .....	9:1
INTAKE AIR SYSTEM .....	Naturally Aspirated
VALVE SEATS .....	Hardened
LIFTER TYPE .....	Hydraulic

## GOVERNOR SPECIFICATIONS

TYPE .....	Electronic
FREQUENCY REGULATION .....	± 1%
STEADY STATE REGULATION .....	± 1/2%
ADJUSTMENTS	
Speed .....	Yes
Droop .....	Yes

## ENGINE LUBRICATION SYSTEM

OIL PUMP .....	Gear
OIL FILTER .....	Full flow cartridge
CRANKCASE CAPACITY .....	5 Quarts

## ENGINE COOLING SYSTEM

TYPE .....	Closed
WATER PUMP .....	Belt driven
FAN SPEED .....	2200
FAN DIAMETER .....	22 inches
FAN MODE .....	Pusher

## FUEL SYSTEM

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

## ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	12V 30 Amp
STATIC BATTERY CHARGER .....	12V 2 Amp
RECOMMENDED BATTERY .....	24F 625CCA
SYSTEM VOLTAGE .....	12 Volts

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). (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

70 kW

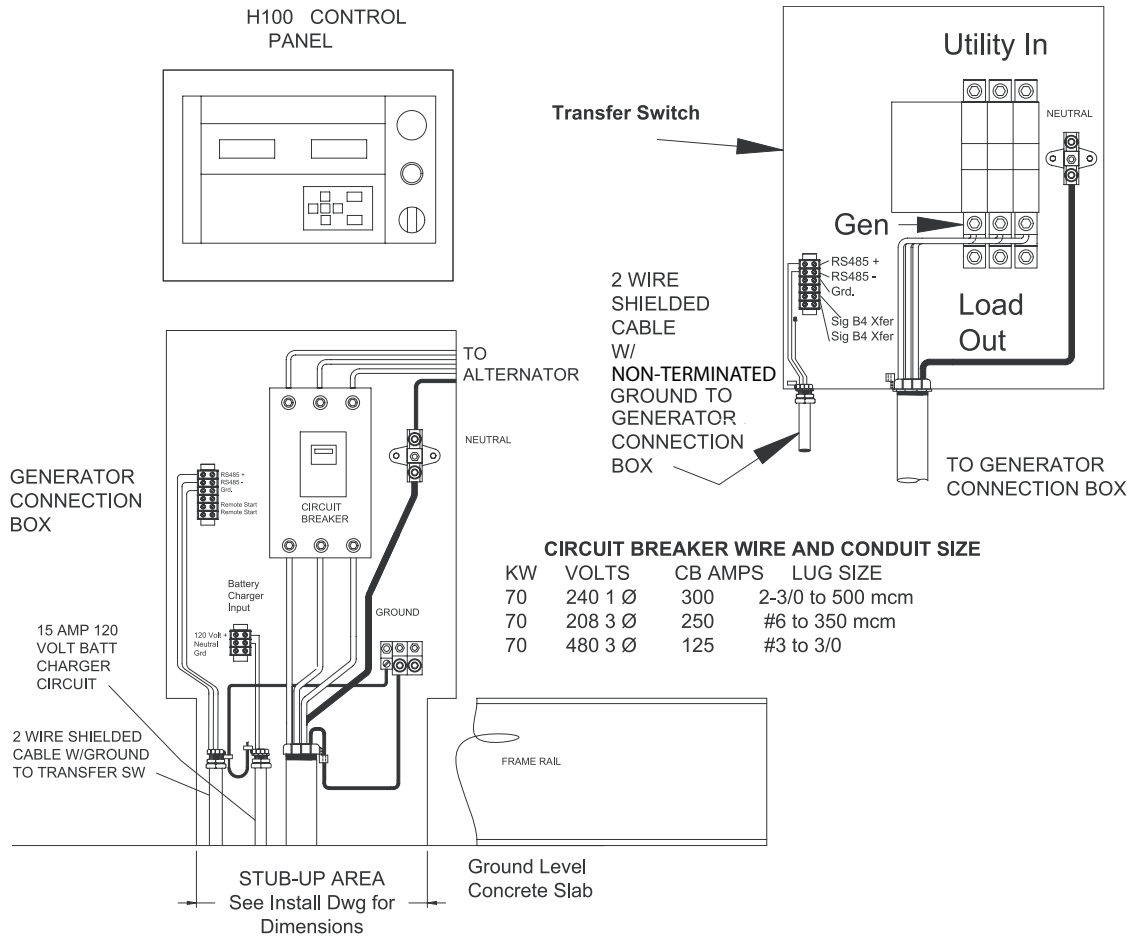
## OPERATING DATA

	COMMERCIAL 70 kW		
<b>KW RATING</b>	70		
<b>ENGINE SIZE</b>	6.8 Liter V-10		
<b>GENERATOR OUTPUT VOLTAGE/KW - 60Hz</b>	<b>KW</b>	<b>AMP</b>	<b>CB Size</b>
120/240V, 1-phase, 1.0 pf	70	292	300
120/208V, 3-phase, 3.0 pf	70	243	250
277/480V, 3-phase, 3.0 pf	70	105	125
<b>GENERATOR LOCKED ROTOR KVA AVAILABLE @ VOLTAGE DIP OF 35%</b>			
Single phase or 208 3-phase	145		
480V 3-phase	160		
<b>ENGINE FUEL CONSUMPTION (Natural Gas)</b>			
Exercise cycle	ft <sup>3</sup> /hr.	240	
25% of rated load	ft <sup>3</sup> /hr.	260	
50% of rated load	ft <sup>3</sup> /hr.	500	
75% of rated load	ft <sup>3</sup> /hr.	696	
100% of rated load	ft <sup>3</sup> /hr.	1020	
<b>ENGINE COOLING</b>			
Air flow (inlet air including alternator and combustion air)	ft <sup>3</sup> /min.	5200	
Coolant capacity	US gal.	4.5	
Heat rejection to coolant	BTU/hr.	281,500	
Max. operating air temp. on radiator	°C (°F)	60 (150)	
Max. ambient temperature	°C (°F)	50 (140)	
<b>COMBUSTION AIR REQUIREMENTS</b>			
Flow at rated power 60 Hz	cfm	205	
<b>SOUND EMISSIONS IN DBA</b>			
Exercising at 7 meters	60		
Full load at 7 meters	73		
<b>EXHAUST</b>			
Exhaust flow at rated output 60 Hz	cfm	615	
Exhaust temp. at muffler outlet	°F	925	
<b>ENGINE PARAMETERS</b>			
Rated synchronous RPM	60 Hz	1800	
HP at rated KW	60 Hz	109	
<b>POWER ADJUSTMENT FOR AMBIENT CONDITIONS</b>			
Temperature Deration			
3% for every 10 °C above - °C	25		
1.65% for every 10 °F above - °F	77		
Altitude Deration			
1% for every 100 m above - m	182		
3% for every 1000 ft. above - ft.	600		

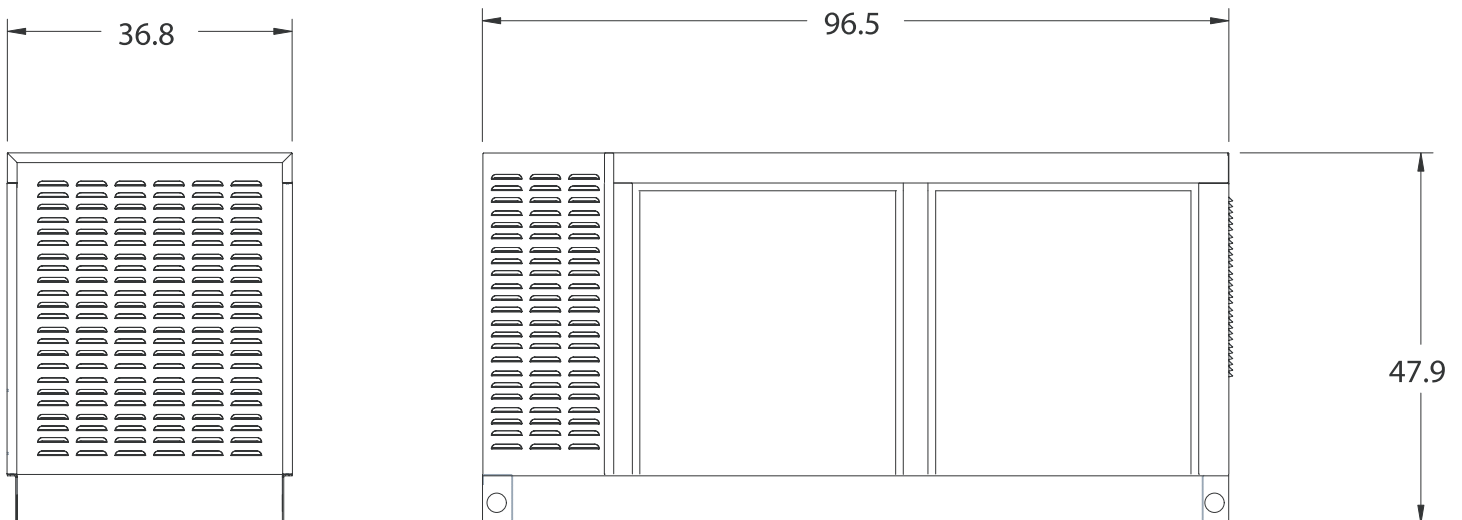
RATING: All three phases units are rated at 0.8 power factor. All single phase units are rated at 1.0 power factor. STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice. kW rating is based on LPG fuel and may derate with natural gas.

# INTERCONNECTIONS

70 kW



# INSTALLATION LAYOUT



**UNIT WEIGHT 2185 LBS.**

**GENERAC® POWER SYSTEMS, INC. P.O. BOX 297 WHITEWATER, WI 53190**  
**WEBSITE: [guardiangenerators.com](http://guardiangenerators.com)**