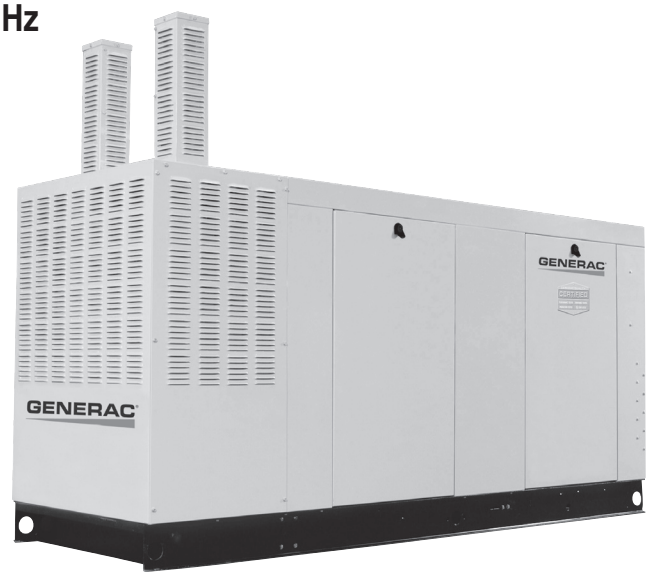
QT100A

Liquid Cooled Gas Engine Generator Sets

Standby Power Rating

100 kW 60 Hz



GENERAC 6.8L ENGINE

Naturally Aspirated
Gaseous Fueled
Gear Drive
QT100A
Meets 2009 EPA Emission Regulations

STANDARD EQUIPMENT

- All input connections in one single area
- High coolant temperature shutdown
- Low oil pressure shutdown
- Low coolant level automatic shutdown
- Low fuel pressure
- 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
- 10 Amp static battery charger
- Battery and battery cables
- Battery rack
- Fan and belt guards
- Isochronous governor
- Coolant heater

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 with H-100 microprocessor control panel
- 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

GENERAC®

APPLICATION & ENGINEERING DATA

QT100A

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	Gear Drive
LOAD CAPACITY (STANDBY RATING)	100 kW
EXCITATION SYSTEM	Brushless

NOTE: 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
- ❒ Quiet drive coupling
- ❒ 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^2T 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	Isochronous
STEADY STATE REGULATION	± 0.25%

All functions are factory preset.

Individual parameter adjustments can be made via GenLink®.

ENGINE LUBRICATION SYSTEM

OIL PUMP	Gear
OIL FILTER	Full flow spin-on cartridge
CRANKCASE CAPACITY	5 Quarts

ENGINE COOLING SYSTEM

TYPE	Closed
WATER PUMP	Belt driven
FAN SPEED	1670
FAN DIAMETER	26 inches
FAN MODE	Puller
COOLANT HEATER	1500W 120V

FUEL SYSTEM

FUEL TYPE	Natural gas, propane vapor
CARBURETOR	Down Draft
SECONDARY FUEL REGULATOR	Standard
FUEL SHUT OFF SOLENOID	Standard
OPERATING FUEL PRESSURE	11" - 14" H_2O

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR	12V 30 Amp
STATIC BATTERY CHARGER	12V 10 Amp
RECOMMENDED BATTERY	Group 24F, 525CCA
SYSTEM VOLTAGE	12 Volts

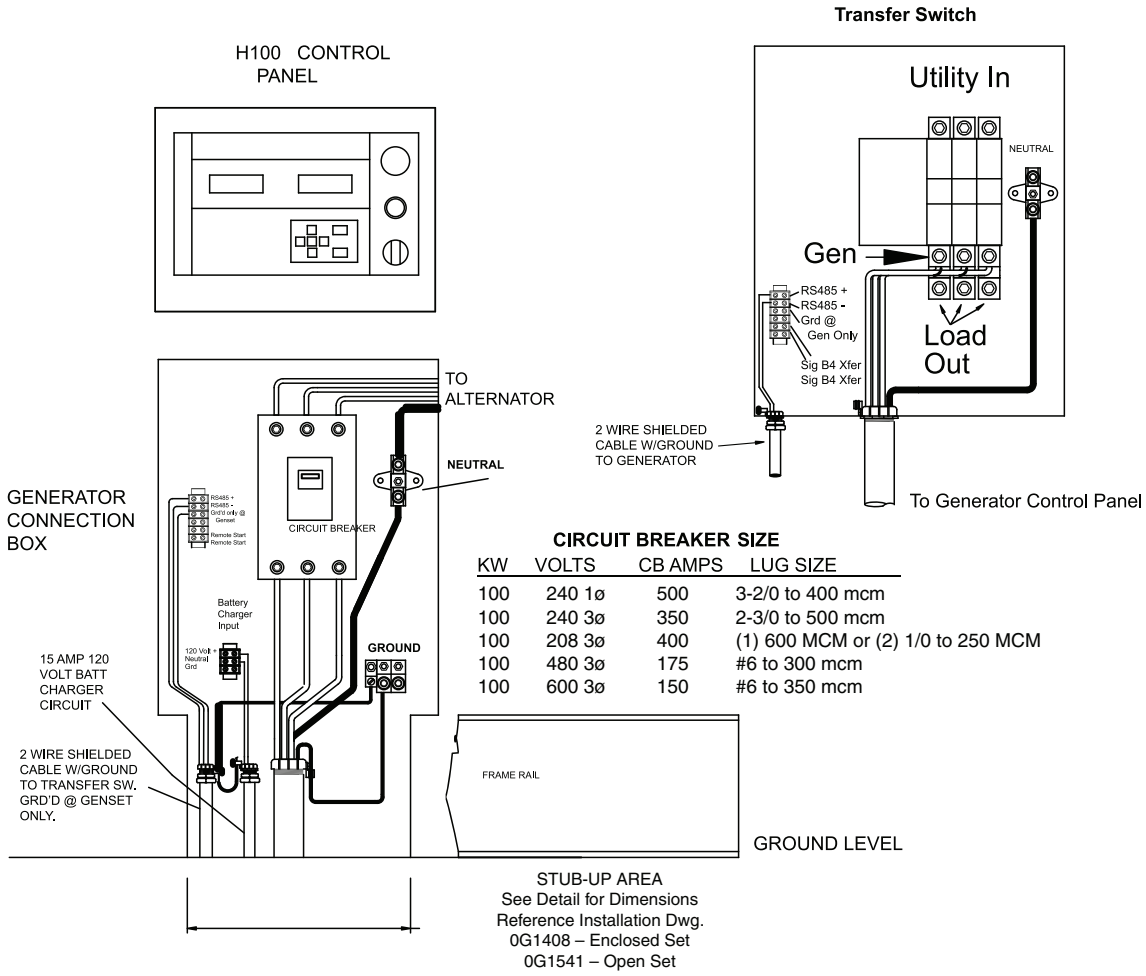
Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

OPERATING DATA

	QT100A				
KW RATING	100				
ENGINE SIZE	6.8 Liter V-10				
GENERATOR OUTPUT VOLTAGE/KW - 60Hz	**KW**	**AMP**	**CB Size**		
120/240V, 1-phase, 1.0 pf	100	417	500		
120/240V, 3-phase, 0.8 pf	100	300	350		
120/208V, 3-phase, 0.8 pf	100	347	400		
277/480V, 3-phase, 0.8 pf	100	150	175		
600V, 3-phase, 0.8 pf	100	120	150		
GENERATOR LOCKED ROTOR KVA AVAILABLE @ VOLTAGE DIP OF 35%					
Single phase or 208 3-phase	206				
480V 3-phase	275				
ENGINE FUEL CONSUMPTION (Natural Gas) (Propane)	**Natural Gas**		**Propane**		
	(ft^3/hr.)	(lbs/hr)	(ft^3/hr.)	(gal/hr.)	(lbs/hr)
Exercise cycle	135	5.67	54.5	1.4	5.94
10% of rated load	307	12.9	119	3.3	14
25% of rated load	488	20.5	193	5.3	22.76
50% of rated load	798	33.5	312	8.6	36.84
75% of rated load	1059	44.47	419	11.5	49.51
100% of rated load	1339	56.24	533	14.6	62.9
ENGINE COOLING					
Air flow (inlet air including alternator and combustion air) ft^3/min	5,500				
System coolant capacity US gal.	4.5				
Heat rejection to coolant BTU/hr.	342,000				
Max. operating air temp. on radiator °C (°F)	60 (150)				
Max. ambient temperature °C (°F)	50 (140)				
COMBUSTION AIR REQUIREMENTS					
Flow at rated power 60 Hz cfm	262				
SOUND EMISSIONS IN DBA					
Exercising at 7 meters	61				
Normal operation at 7 meters	72				
EXHAUST					
Exhaust flow at rated output 60 Hz cfm	888				
Exhaust temp. at muffler outlet °F	960				
ENGINE PARAMETERS					
Rated synchronous RPM 60 Hz	2300				
HP at rated KW 60 Hz	162.3				
POWER ADJUSTMENT FOR AMBIENT CONDITIONS					
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	183				
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



CIRCUIT BREAKER SIZE

KW	VOLTS	CB AMPS	LUG SIZE
100	240 1ø	500	3-2/0 to 400 mcm
100	240 3ø	350	2-3/0 to 500 mcm
100	208 3ø	400	(1) 600 MCM or (2) 1/0 to 250 MCM
100	480 3ø	175	#6 to 300 mcm
100	600 3ø	150	#6 to 350 mcm

INSTALLATION LAYOUT