

# GA20000



Air-Cooled Gas Engine

## FEATURES

- GENERAC G-FORCE OHV Engine
- Fuel: Natural Gas or LP Gas Operation
- Electronic Governor
- Sound Attenuated Aluminium Enclosure
- True Power™ Electrical Technology
- Two Line LCD Multilingual Digital Evolution™ Controller
- System Status & Maintenance Interval LED Indicators
- Flexible Fuel Line Connector
- Wi-Fi communications standard
- Free Mobile Link™ Wi-Fi Remote Monitoring through App
- 5 Year Limited Warranty

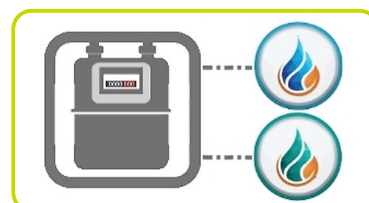


## AUTOMATIC BACKUP POWER GENERATORS

Compatible with LTS Load Transfer Switches (Accessory)

### PERFORMANCE

Stand By Power [ESP] (Liquid Propane)	VA	20000
Stand By Power [ESP] (Natural Gas)	VA	17000
Frequency	Hz	50
Voltage	V	400
Phase		3
Power factor	cos $\phi$	0.8



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).

Maximum kilovolt amps and current are subject to and limited by such factors as fuel Btu/megajoule content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases about 3.5 percent for each 305 meters above sea level; and also will decrease about 1 percent for each 6 °C above 16 °C.

## Engine specifications

Engine Brand	Generac	
Model	G-FORCE 1000 SERIES	
Type	OHV	
Engine cooling system	Air	
Nr. of cylinder and disposition	2 V angle	
Displacement	cm <sup>3</sup>	999
Compression Ratio	9.5:1	
Starting system	Electric	
Electric circuit	V	12
Speed governor	Electronic	
Operating Speed-Nominal	rpm	3000
Oil capacity	l	1.8
Fuel	Natural Gas or LP Gas	
• Natural Gas: Fuel consumption 50%	m <sup>3</sup> /h	4.50
• Natural Gas: Fuel consumption 100%	m <sup>3</sup> /h	7.02
• Liquid Propane Gas: Fuel consumption 50%	l/h	6.83
• Liquid Propane Gas: Fuel consumption 100%	l/h	10.86

Note: Fuel pipe must be sized for full load. Required fuel pressure to generator fuel inlet at all load ranges 0.87-1.74 kPa (3.5"-7" water column) for natural gas, 2.49-2.99 kPa (10-12" water column) for LP gas.

Outputs are based upon values @ 1000 Btu per cubic feet with NG and 2500 Btu per cubic feet with LP

@ 37.26 Megajoules per cubic meter with NG and 93.15 Megajoules per cubic meter with LP

## Alternator Specifications

Frequency	Hz	50
Voltage regulation system	AVR	
Phase (s)	3	
Poles	2	

## Data Current

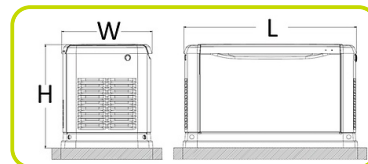
Max current (Liquid Propane)	A	28.87
Max current (Natural Gas)	A	24.54
Circuit breaker	A	32

## Dimensional data

Length	(L) mm	1232
Width	(W) mm	648
Height	(H) mm	733
Dry weight	kg	220

## Noise Level

Guaranteed noise level (LWA)	dB(A)	95
Noise pressure level @ 7 m	dB(A)	67
Quiet-Test Mode	dB(A)	59



## Features and Benefits

### Engine

- Generac G- Force design: Maximizes engine “breathing” for increased fuel efficiency. Plateau honed cylinder walls and plasma moly rings helps the engine run cooler, reducing oil consumption resulting in longer engine life.
- “Spiny-lok” cast iron cylinder walls: Rigid construction and added durability provide long engine life.
- Electronic ignition/spark advance: These features combine to assure smooth, quick starting every time.
- Full pressure lubrication system: Pressurized lubrication to all vital bearings means better performance, less maintenance and longer engine life. Now featuring up to a 2 year/200 hour oil change interval.
- Low oil pressure shutdown system: Shutdown protection prevents catastrophic engine damage due to low oil.
- High temperature shutdown: Prevents damage due to overheating.

### Generator

- Revolving field: Allows for a smaller, light weight unit that operates 25% more efficiently than a revolving armature generator.
- Skewed stator: Produces a smooth output waveform for compatibility with electronic equipment.
- Displaced phase excitation: Maximizes motor starting capability.
- Automatic voltage regulation: Regulates the output voltage to  $\pm 1\%$  prevents damaging voltage spikes.
- True Power Technology: Less than 5% total harmonic distortion (THD).

### Evolution™ Controls

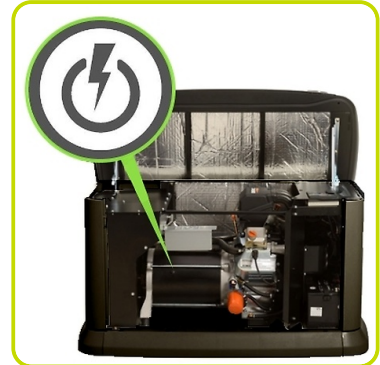
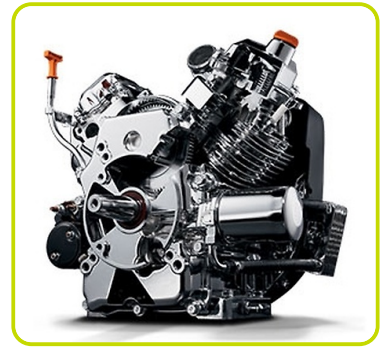
- Auto/Manual/Off illuminated buttons: Selects the operating mode and provides easy, at-a-glance status indication in any condition.
- Sealed, raised buttons: Smooth, weather-resistant user interface for programming and operations.
- Utility voltage sensing: Constantly monitors utility voltage, setpoints 65% dropout, 80% pick-up, of standard voltage.
- Utility interrupt delay: Prevents nuisance start-ups of the engine, adjustable 2-1500 seconds from the factory default setting of 5 seconds by a qualified dealer.
- Engine warm-up: Ensures engine is ready to assume the load, setpoint approximately 5 seconds.
- Engine cool-down: Allows engine to cool prior to shutdown, setpoint approximately 1 minute.
- Programmable seven day exercise: Operates engine to prevent oil seal drying and damage between power outages by running the generator for 5 minutes every other week. Also offers a selectable setting for weekly or monthly operation providing flexibility and potentially lower fuel costs to the owner.
- Smart battery charger: Delivers charge to the battery only when needed at varying rates depending on outdoor air temperature. Compatible with lead acid and AGM-style batteries.
- Main line circuit breaker: Protects generator from overload.
- Electronic governor: Maintains constant 50 Hz frequency.
- Wi-Fi Connectivity

### Unit

- Weather protective Aluminum Enclosure: Sound attenuated enclosures ensure quiet operation and protection against mother nature, withstanding winds up to 240km/h. Hinged key locking roof panel for security. Lift-out front for easy access to all routine maintenance items. Electrostatically applied textured epoxy paint for added durability.
- Enclosed muffler: Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
- Small, compact, attractive: Makes for an easy, eye appealing installation.

### Installation System

- 305 mm flexible fuel line connector: Absorbs any generator vibration when connected to rigid pipe.
- Direct-to-dirt composite mounting pad: Complex lattice design prevents settling or sinking of the generator system.
- Integral sediment trap: Prevents particles and moisture from entering the fuel regulator and engine, prolonging engine life.





## Controls

### Evolution™ Digital Controller

Precise control of all generator systems ensures clean and stable electrical output. Backlit LCD screen with automatically adjusting contrast for easy viewing in changing conditions.

#### Mode Buttons:

- Auto/Manual/Off

#### Program Functions and Protections:

- Ready to Run/Maintenance Messages
- Engine Run Hours Indication
- Programmable start delay
- Utility Voltage Loss/Return to Utility Adjustable
- Future Set Capable Exerciser/Exercise Set Error Warning
- Run/Alarm/Maintenance Logs (50 Events Each)
- Engine Start Sequence (cyclic cranking: 16 sec on, 7 rest, 90 sec maximum duration).
- Smart Battery Charger
- Charger Fault/Missing AC Warning
- Low Battery/Battery Problem Protection and Battery Condition Indication
- Automatic Voltage Regulation with Over and Under Voltage Protection
- Under-Frequency/Overload/Stepper Overcurrent Protection
- Safety Fused/Fuse Problem Protection
- Automatic Low Oil Pressure/High Oil Temperature Shutdown
- Overcrank/Overspeed (@ 72 Hz)/rpm Sense Loss Shutdown
- High Engine Temperature Shutdown
- Internal Fault/Incorrect Wiring Protection
- Common External Fault Capability
- Field Upgradable Firmware
- Wi-Fi MOBILE LINK™
- Circuit Breaker



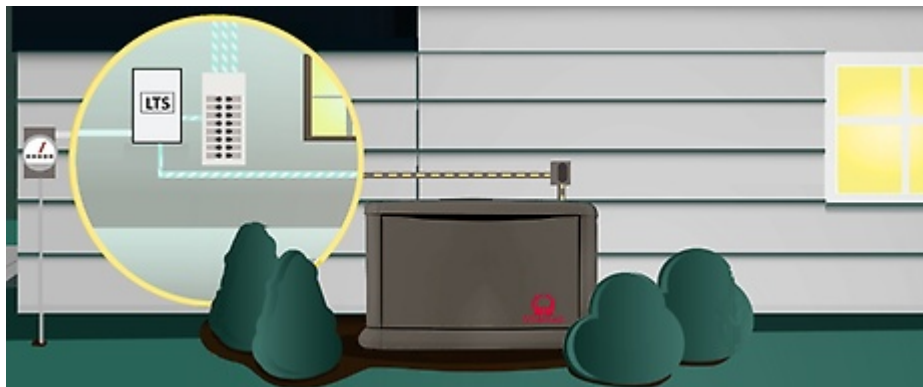
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### LTS - Load Transfer Switch [Accessories]

The Load Transfer Switch (LTS) panel operates the power supply changeover between the generator and the Mains in backup applications, guarantying the feeding to the load within a short period of time.

It consists of a standalone cabinet which can be installed separate from the generating set. The logic control of the power supply changeover is operated by means of the Automatic Control panel mounted on the generating set, so therefore none logic device is required on the LTS panel.



#### AVAILABLE ACCESSORIES

Oil warmer (directly over the oil filter)		✓
Battery Pad Warmer (under the battery)		✓
Fascia Base Wrap Kit		✓
Maintenance Kit		✓
Air cooled generator Transport Cart		✓
Extended Warranty	Years	5+5



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