

# MGG450 | G21.9L | 450 kVA

## MOBILE GASEOUS GENERATOR

EPA Certified: Mobile and Stationary Non-Emergency

**GENERAC** | MOBILE

### Prime Rating

288 kW, 360 kVA, 50 Hz (NG)

360 kW, 450 kVA, 60 Hz (NG)

240 kW, 300 kVA, 50 Hz (LP)

300 kW, 375 kVA, 60 Hz (LP)

### Continuous Rating

240 kW, 300 kVA, 50 Hz (NG)

300 kW, 375 kVA, 60 Hz (NG)

200 kW, 250 kVA, 50 Hz (LP)

250 kW, 312.5 kVA, 60 Hz (LP)



Picture shown may not reflect actual configuration.

## Codes and Standards

Generac Mobile products are designed to the following standards:



NATM

## Power When You and Where You Need It

Generac Mobile generators are designed and engineered to power a variety of projects, in the most extreme environments. Gensets are configured to meet customer needs, including containment pan, cold weather packages, trailer options, and more.

Generac Mobile generators are manufactured to deliver reliable power, when and where you need it.

**STANDARD FEATURES**

**ENGINE SYSTEM**

- Dual-stage air cleaner
- Stainless steel flexible exhaust connection
- Factory filled (crankcase only) oil and coolant
- In-line engine block heater
- Disposable air filter - paper element
- Air filter restriction indicator
- Generac engine
- 12 Cylinder
- Turbocharged & Aftercooled
- 1,336 in<sup>3</sup>(21.9 L) Displacement
- Power @ 1,800 RPM -hp (kW)
  - Prime: 558 (416)
  - Continuous: 465 (347)
- Wrapped exhaust piping
- Engine oil replenishment system
- Oil drain extension
- Two 12V, 225 CCA, group 8D batteries
- Basic starting aids
  - Battery heater
  - Battery charger
  - 6 kW Coolant heater
  - Oil heater
- 10F Start/Run Ambient air temperature

**COOLING SYSTEM**

- Capable of operating at 104 °F (40 °C) ambient
- Exterior coolant drain
- Closed coolant recovery system
- UV/ozone resistant hoses
- 50/50 ethylene glycol antifreeze
- Radiator drain extension

**FUEL SYSTEM**

- Automatic changeover NG/LP
- Dual fuel shutoff solenoid
- Fuel line NPT connection
- Dual-stage scrubber

**IGNITION SYSTEM**

- Cylinder-specific knock-detection sensors
- Automatic spark duration/intensity adjustment
- Automatic ignition timing adjustment

**CONTROL SYSTEM**

- Motortech All-In-One digital controller
- 600A Main Line Circuit Breaker (MLCB)
- Battery disconnect
- Emergency stop

**GENERATOR**

- Heavy duty vibration isolation
- Fork pockets
- Push/pull drag skid capable
- End-mounted all-in-one generator control panel
- Motorized circuit breaker for parallel running

**ALTERNATOR SYSTEM**

- Leroy Somer™ LSA 47.2 S4
  - Brushless
  - 4 Pole
  - 2/3 pitch
  - Class H insulation
- Digital AVR
- Skewed stator
- Permanent magnet Generator (PMG) excitation
- Sealed bearings
- Amortisseur winding
- Full load capacity alternator
- 60 Hz

**POWER DISTRIBUTION**

- Connection Lugs
- Convenience Receptacles
  - Two 120V, 20A, GFCI Duplex Receptacles (NEMS 5-20R)
- Lockable lug box with safety switch
  - Trips main breaker when door is opened
  - Disables voltage regulator

**ENCLOSURE**

- Fully lockable – including doors
- Stainless steel hinges, door latches, and exterior hardware
- Exterior emergency stop switch
- Central lifting point
- Multi-lingual operating and safety decals
- Document holder with owner’s manual – includes AC and DC wiring diagrams
- Integrated single point lift structure; fork pockets in frame
- 4-point standard lifting
- Push-pull-drag points at all 4 corners

**WARRANTY**

- 1 year / unlimited hours

**CONFIGURABLE OPTIONS**

**FREQUENCY**

- 50 Hz

**TRAILER (Includes Below)**

- Three 7000 lb (3175 kg) axle(s)
- Electric brakes
- 3 in (76.2 mm) Lunette ring hitch
- Transportation tie downs
- Safety chains with spring loaded safety hooks
- Top wind jack with footplate – 12,000 lb (5443 kg)
- Tires: St225/75D15d
- Max tire pressure – 105 psi (724 kPa)
- DOT approved tail, side, brake, and directional lights; recessed rear lights
- Illuminated license plate holder
- Rear stabilizer jacksIlluminated license plate holder

- NATM compliant
- Plug Adapter, Flat 4 to round 7 spade

**COLD WEATHER PACKAGE (Includes Below)**

- Heater fuel conditioning system enclosure
- Variable pitch fan (VPF)
- Upgraded Block Heater (300W)
- Heat wrapped fuel system components & Insulated flexible fuel line
- - 40 °F (-40 °C)Start/Run Ambient air temperature

## SYSTEM CONTROLS

### MOTORTECH DIGITAL ALL-IN ONE CONTROL PANEL



### CONTROLLER AND DISPLAY

- Push buttons for easy operation
- Manual or auto start
- Engine start
- Engine stop/reset
- Alarm mute
- Circuit breaker operation
- History
- Manual or auto pushbutton start
- Backlit, 320x240 pixel resolution color display
- Automatic synchronizing and power control
- Voltage and PF control (AVR)
- Baseload, Import/Export, TempByPower
- PLC programmable functions
- Operator screens: Home, Engine, Generator, Voltage Adjust
- Engine diagnostic information:
  - Oil pressure
  - Coolant temperature
  - Battery
  - After-treatment inlet/outlet temperature
- Generator diagnostic information:
  - System kW output display
  - Line output and frequency display
- Alarm types: Warning, Shutdown, Electrical Trip, Engine

- Alarm list – warnings and shutdowns; event history log with date and time stamp
  - Low fuel pressure
  - Engine overspeed
  - Low oil pressure
  - High coolant temperature
  - Coolant level
  - Battery over/under voltage
  - Generator over/under voltage
  - Generator over/under frequency
  - Systems protections
  - Emergency stop
- Inputs/outputs
- Hour Meter
- Auto-schedule
- View controller configuration, firmware version, and connections

### PROGRAM FUNCTIONS

- 2x RS232/RS485 Interface Modbus® Protocol
- Support; Analog/GSM/ISDN/CDMA Modem Communication Support
- Event-Based History (Up to 1000 records) with Customer-Selectable List of Stored Values; RTC; Statistical Values
- USB 2.0 Slave Interface

### FULL SYSTEM STATUS DISPLAY

- Generator measurement: u, i, Hz, kW, kvar, kVA, pf, kWh, kvahr
- Fuel selection
- Bus
- Synchronization
- Statistics
- Power management
- Analog inputs
- Knock detection
- Ignition voltage
- Ignition information
- Main measurement: u, i, Hz, kW, kvar, pf
- Engine coolant temperature and protection
- Coolant level
- Engine oil pressure and protection

## KEY LOAD SHARE FEATURES

- Up to 32 additional gensets
- Digital inter-genset communication via CAN bus
- Non-MMG450 controller communication via analog bridge
- Sequential set start
- Manual voltage/frequency adjustment
- Generator load demand
- Automatic hour run balancing
- Dead bus sensing
- Bus failure detection
- Direct governor and AVR control
- Volts and frequency matching
- kW and kVAR load sharing

## INTEGRATED FIXED AND CONFIGURABLE PROTECTIONS

- 3-phase integrated generator protections (U + f)
- IDMT over-current and short-current protections
- Overload protection
- Reverse power protection
- Earth fault protection
- 3-phase integrated mains protections (U + f)
- Vector shift protection
- All binary/analog inputs free configurable for various protections
- Phase rotation and phase sequence protection

## RATING DEFINITIONS

*Prime: Applies to supplying power to a varying load in lieu of utility for an unlimited amount of running time.*

*Continuous: The maximum power the generator is capable of delivering continuously while supplying a constant electrical load when operated.*

**APPLICATION AND ENGINEERING DATA**

**ENGINE SPECIFICATIONS**

**General**

Make (Model)	Generac
Cylinders: Configuration-QTY	V 12
Displacement - in <sup>3</sup> (L)	1336 (21.9)
Bore - in (mm)	5.03 (128)
Stroke - in (mm)	5.59 (142)
Compression Ratio	10.0:1
Intake Air Method	Turbocharged/ Aftercooled

**Engine Governing**

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

**Lubrication System**

Oil Pump Type	Gear
Oil Filter Type	Twin Full Flow
Crankcase Capacity: qt (L)	32.7 (31)
Oil Consumption: qt/24h (L/24h)	0.86 (0.91)
Oil Makeup Reservoir: qt (L)	120 (113)

**Cooling System**

Cooling System Type	Pressurized Closed Recovery
Water Pump Type	Belt driven
Fan Type	Pusher
Fan Diameter: in (mm)	45 (1143)
Coolant System Capacity: qt (L)	134 (127)

**Fuel System**

Fuel Type	Natural Gas/Wellhead Gas/LP
Operating Fuel Pressure - in H2O (kPa)	5-50 (Commercial Quality / Scrubber By-pass) 40-300 (Unscrubbed Wellhead / Pressure Into Scrubber)

**Engine Electrical System**

System Voltage: VDC	24
Battery Charger Alternator	Standard
Battery: CCA	1450
Battery: Voltage (Qty)	12 (2)
Ground Polarity	Negative (-)

**ALTERNATOR SPECIFICATIONS**

Make (Model)	LSA 47.2 S4
Poles: Qty	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion (THD)	<5%
Telephone Interference Factor (TIF)	<50
Standard Excitation	LSA alternator with PMG

Bearings	Single
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital AVR
Quantity of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.5%

**OPERATING DATA**

**POWER RATINGS**

	Prime: kW/kVA (A)		Continuous: kW/kVA (A)	
	Natural Gas	Liquid Propane	Natural Gas	Liquid Propane
3-phase, 440 / 231 V AC @ PF=0.8 50Hz	360kVA / 288kW Amps: 472	300kVA / 240kW Amps: 394	300kVA / 240kW Amps: 394	250kVA / 200kW Amps: 328
3-phase, 400 / 220 V AC @ PF=0.8 50Hz	360kVA / 288kW Amps: 520	300kVA / 240kW Amps: 433	300kVA / 240kW Amps: 433	250kVA / 200kW Amps: 361
3-phase, 480 / 277 V AC @ PF=0.8 60Hz	450kVA / 360kW Amps: 541	375kVA / 300kW Amps: 451	375kVA / 300kW Amps: 451	312.5kVA / 250kW Amps: 376
3-phase, 440 / 254 V AC @ PF=0.8 60Hz	450kVA / 360kW Amps: 684	375kVA / 300kW Amps: 570	375kVA / 300kW Amps: 570	312.5kVA / 250kW Amps: 475

**FUEL CONSUMPTION RATES\***

Load	50 Hz				60 Hz			
	Natural Gas: ft3/hr (m3/hr)		Propane: ft3/hr (m3/hr)		Natural Gas: ft3/hr (m3/hr)		Propane: ft3/hr (m3/hr)	
	PRP	COP	PRP	COP	PRP	COP	PRP	COP
100%	2891 (81.9)	2479 (70.2)	1200 (34.0)	1036 (29.3)	3681(104.2)	3156 (89.4)	1528 (43.3)	1319 (37.3)
75%	2256 (63.9)	1950 (55.2)	947 (26.8)	825 (23.3)	2894 (81.9)	2501 (70.8)	1214 (34.4)	1058 (29.9)
50%	1623 (46.0)	1421 (40.2)	694 (19.6)	613 (17.4)	2107 (59.7)	1845 (52.2)	901 (25.5)	796 (22.5)
25%	992 (28.1)	894 (25.3)	441 (12.5)	402 (11.4)	1320 (37.4)	1189 (33.7)	587 (16.6)	535 (15.1)

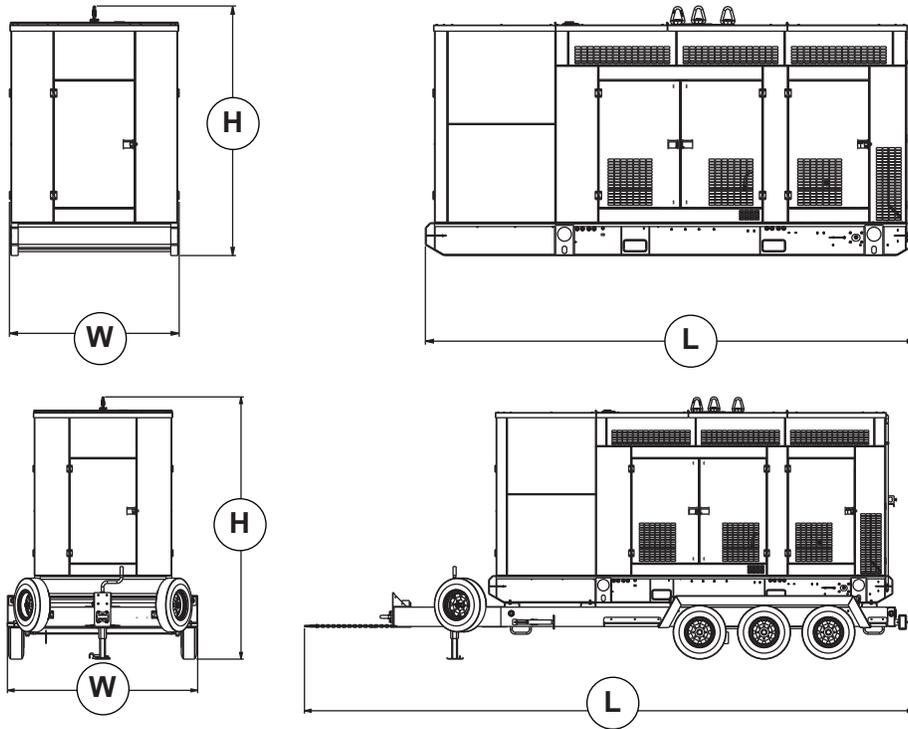
**COOLING**

	50 Hz	60 Hz
Air Flow (Radiator and Alternator)	cfm (m <sup>3</sup> /min)	
	559 (15.8)	711 (20.1)
Coolant System Capacity	US gal (l)	
	23 (87)	23 (87)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.

Please consult a Generac Mobile Authorized Service Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, ISO8665, ISO3046, SAE J1228, SAE J1995, and DIN6271 standards.

**DIMENSIONS AND WEIGHTS\***



**STANDARD ENCLOSURE**

**Skid Mounted**

Operating Weight - lb (kg)	12,110 (5,493 kg)
L x W x H - in (m)	204 x 72 x 101 (5.18 x 1.83 x 2.57)

**Trailer Mounted**

Operating Weight - lb (kg)	15,281 (6,931)
L x W x H - in (m)	253 x 102 x 131 (6.43 x 2.59 x 3.33)
Noise Level at COP	84 dB(A) @ 23 ft (7m)

\* All measurements are approximate and for estimation purposes only.

**YOUR FACTORY RECOGNIZED GENERAC MOBILE DEALER**

Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.