MG Series
Paralleling Unit

GENERAC® | INDUSTRIAL POWER

50 Hz

350 kVA

21.9L

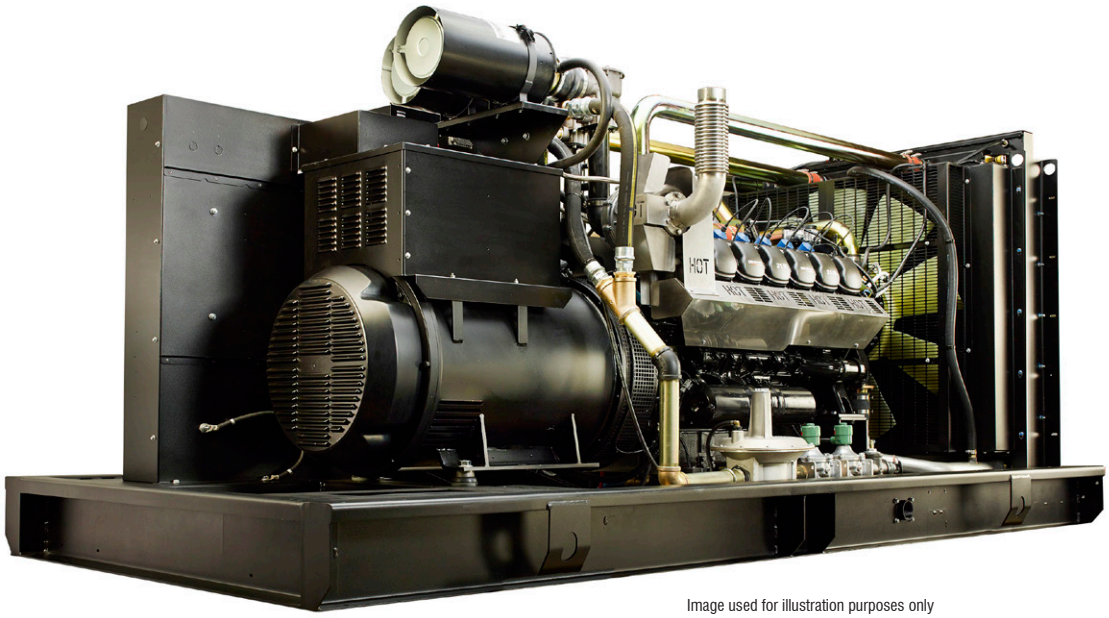
Industrial Spark-Ignited Generator Set

Generac International Products

ISO 9001:2008

USA ENGINEERED & BUILT*

*Built in the USA using domestic and foreign parts



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Power Ratings		
Standby	MG280	350 kVA / 280 kW
Prime	WG252	315 kVA / 252 kW

Powering Ahead

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

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MG Series

Standard Features

ENGINE SYSTEM

General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer
- Factory Filled Oil
- Radiator duct adapter (open set only)

Fuel System

- Primary and Secondary Fuel Shutoff

Cooling System

- Closed Coolant Recovery System
- UV/Ozone resistant hoses
- Factory-installed Radiator
- Radiator drain extension
- 50/50 Ethylene glycol antifreeze

Engine Electrical System

- Battery charging alternator
- Battery Cables
- Battery Tray
- Solenoid activated starter motor
- Rubber-booted engine electrical connections

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H insulation material
- 2/3 Pitch
- Skewed Stator
- Permanent Magnet Excitation
- Sealed Bearings
- Amortisseur winding
- Full load capacity alternator

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of circuits - high/low voltage
- Separation of circuits - multiple breakers
- Wrapped Exhaust Piping (enclosed units only)
- Standard Factory Testing
- 2 Year Limited Warranty (Standby rated units)
- 1 Year Warranty (Prime rated units)
- Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (if selected)

- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material
- Gasketed doors
- Stamped air-intake louvers
- Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™ - Textured polyester powder coat

CONTROL SYSTEM

Control Panel

- Digital G-200 Paralleling Control Panel - Touchscreen
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- Low Fuel Pressure Indication
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- Predictive Maintenance algorithm
- Sealed Boards
- Password parameter adjustment protection
- Single point ground
- 15 channel data logging
- 0.2 msec high speed data logging
- Alarm information automatically comes up on the display

Alarms

- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Pressure Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- Alarms & warnings time and date stamped
- Alarms & warnings for transient and steady state conditions
- Snap shots of key operation parameters during alarms & warnings
- Alarms and warnings spelled out (no alarm codes)

PARALLELING CONTROLS

- Auto-synchronization process
- Isochronous load sharing
- Reverse power protection
- Maximum power protection
- Electrically operated, mechanically held paralleling switch
- Sync check system
- Independent on-board paralleling
- Optional programmable logic full auto back-up control (pls)
- Shunt Trip and Auxiliary Contact

MG Series

Configurable Options

ENGINE SYSTEM

General

- ○ Engine Block Heater with ball valves
- ○ Flexible Fuel Line - NPT Connection
- ○ Oil Heater
- ○ Air Filter Restriction Indicator
- ○ Stone Guard (open set only)

Engine Electrical System

- ○ 10A UL battery charger
- ○ Battery Warmer

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater
- ○ Tropical coating (400/231 V non-upsized only)

GENERATOR SET

- ○ Gen-Link Communications Software (English only)
- ○ Extended Factory Testing (3 Phase only)
- ○ 8 Position Load Center

CIRCUIT BREAKER OPTIONS

- ○ Main Line Circuit Breaker
- ○ Electronic Trip Breakers

ENCLOSURE

- ○ Standard Enclosure
- ○ Level 1 Sound Attenuation
- ○ Level 2 Sound Attenuation
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ 180 MPH Wind Kit
- ○ 12 VDC Enclosure Lighting Kit
- ○ 120 VAC Enclosure Lighting Kit
- ○ AC/DC Enclosure Lighting Kit

CONTROL SYSTEM

- ○ 21-Light Remote Annunciator
- ○ Remote Relay Panel (8 or 16)
- ○ Oil Temperature Sender with Indication Alarm
- ○ Remote E-Stop (Break Glass-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Flush Mount)
- ○ Remote Communication - Modem
- ○ Remote Communication - Ethernet
- ○ 10A Run Relay
- ○ Ground fault indication and protection functions

Engineered Options

ENGINE SYSTEM

- ○ Coolant heater ball valves
- ○ Fluid containment pans
- ○ Low fuel pressure system (7"-11" H_2O)

ALTERNATOR SYSTEM

- ○ 2nd Breaker Systems

GENERATOR SET

- ○ Special Testing
- ○ Battery Box

ENCLOSURE

- ○ Motorized Dampers
- ○ Enclosure Ambient Heaters
- ○ Door Alarm Switch

CONTROL SYSTEM

- ○ Battery Disconnect Switch

Rating Definitions

Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.
Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications.

Power ratings in accordance with ISO 8528-1, Second Edition dated 2005-06-01, definitions for Prime Power (PRP) and Emergency Standby Power (ESP).

MG Series application and engineering data

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	12
Type	V12
Displacement - L (Cu In)	21.9 (1336.42)
Bore - mm (in)	128 (5.03)
Stroke - mm (in)	142 (5.6)
Compression Ratio	10:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	7
Connecting Rods	Alloy Steel
Cylinder Head	Cast Iron - OHV
Cylinder Liners	Cast Alloy Steel
Ignition	Altronic CD200D
Pistons	Aluminum Alloy
Crankshaft	Forged Alloy Steel
Lifter Type	Solid
Intake Valve Material	High Temp Alloy Steel
Exhaust Valve Material	High Temp Alloy Steel
Hardened Valve Seats	High Temp Alloy Steel

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	(+/-) 0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Twin Full flow with intercooler
Crankcase Capacity - L (qts)	30 (31.7)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Water Pump Flow - gpm (lpm)	211 (800)
Fan Type	Pusher
Fan Speed (rpm)	1404
Fan Diameter mm (in)	44
Coolant Heater Wattage	2500
Coolant Heater Standard Voltage	240 V

Fuel System

Fuel Type	Natural Gas
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard (Dual)
Operating Fuel Pressure	11" - 15" H_2O
Operating Fuel Pressure (Optional)	7" - 11" H_2O

Engine Electrical System

System Voltage	24 VDC
Battery Charging Alternator	Std
Battery Size	See Battery Index 0161970SBY
Battery Voltage	(2) 12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	520
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50
Standard Excitation	Permanent Magnet
Bearings	Sealed Ball
Coupling	Direct, Flexible Disc
Prototype Short Circuit Test	Yes

Voltage Regulator Type	Full Digital
Number of Sensed Phases	5
Regulation Accuracy (Steady State)	+/- 0.25%

MG Series operating data

POWER RATINGS – NATURAL GAS

	Standby		Prime	
Three Phase 231/400 VAC @0.8pf	350 kVA / 280 kW	505 Amps	315 kVA / 252 kW	455 Amps

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

		380/480 VAC					
Alternator	kVA	10%	15%	20%	25%	30%	35%
Standard	350	323	484	646	807	968	1130
Upsize 1	555	381	572	762	953	1143	1333
Upsize 2	642	393	589	786	983	1178	1375

FUEL CONSUMPTION RATES*

Natural Gas – ft^3/hr (m^3/hr)

Percent Load	Standby	Prime
25%	1223 (34.6)	1101 (31.2)
50%	1901 (53.8)	1710 (48.4)
75%	2552 (72.3)	2296 (65.0)
100%	3203 (90.7)	2882 (81.6)

*Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby	Prime
Air Flow (inlet air combustion and radiator)	cfm (m^3/min)	20360 (577)	20290 (575)
System Coolant Capacity	Gal (Liters)	23 (87)	23 (87)
Heat Rejection to Coolant	BTU/hr	1,102,122	1,102,122
Max. Operating Air Temp. on Radiator	°F (°C)	122 (50.0)	122 (50.0)
Max. Additional Radiation Backpressure	in H_2O	0.5	0.5

COMBUSTION AIR REQUIREMENTS

		Standby	Prime
Flow at Rated Power	cfm (m^3/min)	560 (15.9)	490 (13.9)

ENGINE

		Standby	Prime
Rated Engine Speed	rpm	1500	1500
Horsepower at Rated kW	hp	441.6	397.4
Piston Speed	ft/min (m/min)	-	-
BMEP	psi	165	148

EXHAUST

		Standby	Prime
Exhaust Flow (Rated Output)	cfm (m^3/min)	2619 (74)	2465 (70)
Maximum Additional Backpressure (Post Silencer)	inHg	0.75	0.75
Exhaust Temperature (Rated Output -Post Silencer)	°F (°C)	1027 (553)	925 (496)
Exhaust Outlet Size (Open Set)	in	3.5" O.D. Flex (No Muffler)	

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

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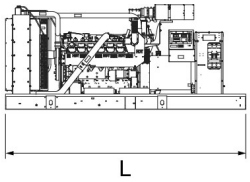
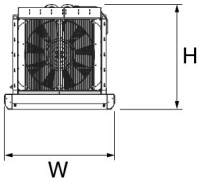
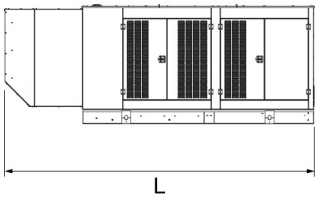
MG Series dimensions, weights, and sound levels

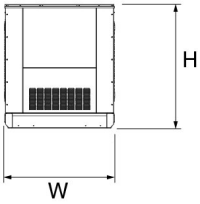




OPEN SET (Includes Exhaust Flex)

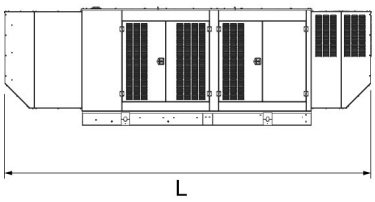
L x W x H in (mm)	154.4 (3923) x 71 (1803) x 67 (1702)
Weight lbs (kg)	8429 (3823)
Sound Level (dBA*)	91

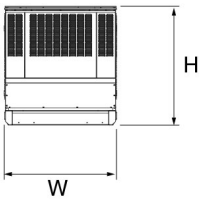




STANDARD ENCLOSURE

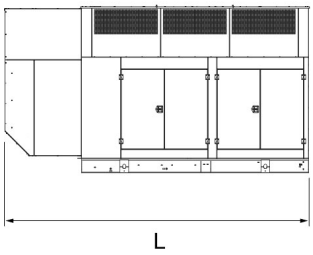
L x W x H in (mm)	207.4 (5268) x 71 (1803) x 80 (2032)
Weight lbs (kg)	Steel: 10428 (4730) Aluminum: 9298 (4217)
Sound Level (dBA*)	90

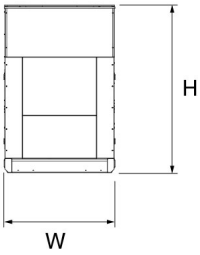




LEVEL 1 ACOUSTIC ENCLOSURE

L x W x H in (mm)	247.5 (6285) x 71 (1803) x 80 (2032)
Weight lbs (kg)	Steel: 11211 (5085) Aluminum: 9720 (4409)
Sound Level (dBA*)	80





LEVEL 2 ACOUSTIC ENCLOSURE

L x W x H in (mm)	207.4 (5268) x 71 (1803) x 114 (2899)
Weight lbs (kg)	Steel: 11759 (5333) Aluminum: 9951 (4513)
Sound Level (dBA*)	73

*All measurements are approximate and for estimation purposes only. Sound levels measured at 23 ft (7 m) and does not account for ambient site conditions.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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