

MG120/WG108 | 14.2L | 150 kVA

INDUSTRIAL SPARK-IGNITED GENERATOR SET

Generac International Products

GENERAC® | **INDUSTRIAL
POWER**

Standby Power Rating - MG120

150 kVA, 120 kW, 50 Hz

Prime Power Rating - WG108

135 kVA, 108 kW, 50 Hz



*Assembled in the USA using domestic and foreign parts



Image used for illustration purposes only

Codes and Standards

Generac products are designed to the following standards:



BS5514 and DIN 6271



SAE J1349



NFPA 37, 70, 99, 110



NEC700, 701, 702, 708



ISO 3046, 7637, 8528, 9001



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41

Powering Ahead

Generac ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Generac also makes its own spark-ignited engines, and you'll find them on every Generac gaseous-fueled generator. We engineer and manufacture them from the block up — all at our facilities throughout Wisconsin. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from single-source responsibility.

Plus, Generac Industrial Power's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Generac spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

STANDARD FEATURES**ENGINE SYSTEM**

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Critical Exhaust Silencer (Enclosed Only)

Fuel System

- Fuel Line - NPT Connection
- Primary and Secondary Fuel Shutoff

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Permanent Magnet Excitation
- Sealed Bearing
- 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 Only)
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited 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
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

CONTROL SYSTEM**Digital G-200 Paralleling Control Panel - Touchscreen****Program Functions**

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- 3-Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- 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)
- NFPA110 Level I and II (Programmable)

- Customizable Alarms, Warnings, and Events
- Modbus® Protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2 msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature

- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Low Fuel Pressure Alarm
- Engine Overspeed
- Battery Voltage
- Alarms and Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms and 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

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- Engine Coolant Heater
- Air Filter Restriction Indicator
- Stone Guard (Open Set Only)
- Critical Exhaust Silencer (Open Set Only)

ELECTRICAL SYSTEM

- 10A Battery Charger

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating

CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breakers

GENERATOR SET

- GenLink® Communications Software (English Only)
- Extended Factory Testing (3 Phase Only)
- Pad Vibration Isolators
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)

ENCLOSURE

- Weather Protected
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation
- Steel Enclosure
- Aluminum Enclosure
- AC/DC Enclosure Lighting Kit
- Door Alarm Switch

CONTROL SYSTEM

- 21-Light Remote Annunciator
- Remote Relay Assembly (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
- 10A Run Relay
- Ground Fault Indication and Protection Functions
- Programmable Logic Full Auto Back-Up Control (PLS) for PM-SC

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant Heater Ball Valves
- Fluid Containment Pan

ALTERNATOR SYSTEM

- 3rd Breaker Systems

CONTROL SYSTEM

- Battery Disconnect Switch

GENERATOR SET

- Special Testing
- Battery Box

ENCLOSURE

- Motorized Dampers

MG120/WG108 | 14.2L | 150 kVA

INDUSTRIAL SPARK-IGNITED GENERATOR SET

Generac International Products

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

| | |
|-------------------------------------|------------------------------|
| Make | Generac |
| Cylinder # | 6 |
| Type | Inline |
| Displacement - L (in ³) | 14.17 (864.71) |
| Bore - mm (in) | 135 (5.31) |
| Stroke - mm (in) | 165 (6.50) |
| Compression Ratio | 9.5:1 |
| Intake Air Method | Turbocharged/Aftercooled |
| Number of Main Bearings | 7 |
| Connecting Rods | Carbon Steel |
| Cylinder Head | Cast Iron GT250, OHV |
| Cylinder Liners | Ductile Iron |
| Ignition | Electronic |
| Piston Type | Aluminum |
| Crankshaft Type | Ductile Iron |
| Lifter Type | Solid |
| Intake Valve Material | Special Heat-Resistant Steel |
| Exhaust Valve Material | High Temp Steel Alloy |
| Hardened Valve Seats | High Temp Steel Alloy |

Engine Governing

| | |
|-------------------------------------|------------|
| Governor | Electronic |
| Frequency Regulation (Steady State) | ± 0.25% |

Lubrication System

| | |
|-----------------------------|-----------------------------|
| Oil Pump Type | Gear |
| Oil Filter Type | Full-Flow Spin-On Cartridge |
| Crankcase Capacity - L (qt) | 34.3 (36.2) |

Cooling System

| | |
|-----------------------------|--------------------|
| Cooling System Type | Pressurized Closed |
| Water Pump Flow - lpm (gpm) | 348 (92) |
| Fan Type | Pusher |
| Fan Speed - rpm | 1,581 |
| Fan Diameter - mm (in) | 762 (30) |

Fuel System

| | |
|---|--------------------|
| Fuel Type | Natural Gas |
| Carburetor | Down Draft |
| Secondary Fuel Regulator | Standard |
| Fuel Shut Off Solenoid | Standard |
| Operating Fuel Pressure - kPa (in H ₂ O) | 1.7 - 2.7 (7 - 11) |

Engine Electrical System

| | |
|----------------------------|------------------------------|
| System Voltage | 24 VDC |
| Battery Charger Alternator | Standard |
| Battery Size | See Battery Index 0161970SBY |
| Battery Voltage | (2) - 12 VDC |
| Ground Polarity | Negative |

ALTERNATOR SPECIFICATIONS

| | |
|-------------------------------------|----------------|
| Standard Model | Generac 520 mm |
| 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 | Single Sealed |
| Coupling | Direct via Flexible Disc |
| Prototype Short Circuit Test | Yes |
| Voltage Regulator Type | Full Digital |
| Number of Sensed Phases | All |
| Regulation Accuracy (Steady State) | ± 0.25% |

MG120/WG108 | 14.2L | 150 kVA

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OPERATING DATA

POWER RATINGS - NATURAL GAS

| | Standby | Prime |
|--------------------------------|--------------------------|--------------------------|
| Three-Phase 231/400 VAC @0.8pf | 150 kVA/120 kW Amps: 217 | 135 kVA/108 kW Amps: 195 |

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

231/400 VAC

| Alternator | kVA | 10% | 15% | 20% | 25% | 30% | 35% |
|------------|-----|-----|-----|-----|-----|-----|-----|
| Standard | 150 | 110 | 165 | 220 | 276 | 330 | 385 |
| Upsize 1 | 175 | 155 | 232 | 310 | 388 | 465 | 542 |
| Upsize 2 | 200 | 155 | 232 | 310 | 388 | 465 | 542 |

FUEL CONSUMPTION RATES*

Natural Gas – m³/hr (ft³/hr)

| Percent Load | Standby | Prime |
|--------------|--------------|--------------|
| 25% | 18.5 (653) | 16.7 (588) |
| 50% | 31.7 (1,119) | 28.5 (1,007) |
| 75% | 42.8 (1,511) | 38.5 (1,360) |
| 100% | 52.8 (1,865) | 47.5 (1,679) |

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

COOLING

| | | Standby | Prime |
|---|---------------------------|-----------------------------|-----------------|
| Air Flow (Inlet Air Combustion and Radiator) | m³/min (ft³/min) | 211.8 (7,479) | 211.8 (7,479) |
| Coolant Flow | lpm (gpm) | 333 (88) | 333 (88) |
| Coolant System Capacity | L (gal) | 39.7 (10.5) | 39.7 (10.5) |
| Heat Rejection to Coolant | BTU/hr (kW) | 437,211 (128.1) | 362,885 (106.4) |
| Maximum Operating Ambient Temperature | °C (°F) | 50 (122) | 50 (122) |
| Maximum Operating Ambient Temperature (Before Derate) | | See Bulletin No. 019927ASSD | |
| Maximum Radiator Backpressure | kPa (in H ₂ O) | 0.12 (0.5) | 0.12 (0.5) |

COMBUSTION AIR REQUIREMENTS

| | Standby | Prime |
|----------------------------------|-----------|-----------|
| Flow at Rated Power m³/min (cfm) | 7.7 (272) | 7.2 (256) |

ENGINE

| | | Standby | Prime |
|------------------------|----------------|-------------|-------------|
| Rated Engine Speed | rpm | 1,500 | 1,500 |
| Horsepower at Rated kW | hp | 190 | 152 |
| Piston Speed | m/min (ft/min) | 450 (1,477) | 450 (1,477) |
| BMEP | kPa (psi) | 800 (116) | 641 (93) |

EXHAUST

| | | Standby | Prime |
|---|--------------|-------------|-------------|
| Exhaust Flow (Rated Output) | m³/min (cfm) | 26.6 (939) | 25.0 (883) |
| Maximum Exhaust Backpressure | kPa (inHg) | 2.54 (0.75) | 2.54 (0.75) |
| Exhaust Temp (Rated Output - Post Silencer) | °C (°F) | 684 (1,263) | 628 (1,162) |

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

Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.

Standby - See Bulletin 0187500SSB

Prime - See Bulletin 0187510SSB

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DIMENSIONS AND WEIGHTS*



OPEN SET (Includes Exhaust Flex)

| | |
|---------------------|---|
| L x W x H - mm (in) | 3,250 (128.0) x 1,357 (53.4) x 1,583 (62.3) |
| Weight - kg (lbs) | 2,445 (5,389) |

STANDARD ENCLOSURE

| | |
|---------------------|---|
| L x W x H - mm (in) | 3,909 (154.4) x 1,371 (54.0) x 1,772 (69.8) |
| Weight - kg (lbs) | Steel: 2,889 (6,369) Aluminum: 2,678 (5,903) |

LEVEL 1 ACOUSTIC ENCLOSURE

| | |
|---------------------|---|
| L x W x H - mm (in) | 4,569 (179.9) x 1,371 (54.0) x 1,772 (69.8) |
| Weight - kg (lbs) | Steel: 3,027 (6,674) Aluminum: 2,737 (6,034) |

LEVEL 2 ACOUSTIC ENCLOSURE

| | |
|---------------------|---|
| L x W x H - mm (in) | 3,922.9 (154.45) x 1,371 (54.0) x 2,370 (93.3) |
| Weight - kg (lbs) | Steel: 3,134 (6,909) Aluminum: 2,783 (6,135) |

* All measurements are approximate and for estimation purposes only.

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|--|
| YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER |
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Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.