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.

Standby Power Rating
450 kW, 562 kVA, 60 Hz

Demand Response Rating
450 kW, 562 kVA, 60 Hz

Prime Power Rating
405 kW, 506 kVA, 60 Hz

Codes and Standards
Not all codes and standards apply to all configurations. Contact factory for details.

UL2200, UL6200, UL1236, UL489

CSA C22.2, B149

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

**ENGINE SYSTEM**
- Oil Drain Extension
- Air Cleaner
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer

**Fuel System**
- NPT Fuel Connection on Frame
- Primary and Secondary Fuel Shutoff

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

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

**ALTERNATOR SYSTEM**
- UL2200 GENprotect™
- 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
- Standard Factory Testing
- 2 Year Limited Warranty (Standby and Demand Response Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Units Only)

**ENCLOSURE (If Selected)**
- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- 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**
- Power Zone® Pro Sync Controller

**Program Functions**
- NFPA 110 Level 1 Compliant
- Engine Protective Functions
- Alternator Protective Functions
- Digital Engine Governor Control
- Digital Voltage Regulator
- Multiple Programmable Inputs and Outputs
- Remote Display Capability
- Remote Communication via Modbus® RTU, Modbus TCP/IP, and Ethernet 10/100
- Remote Wireless Software Update Capable
- Wi-Fi, Bluetooth, BMS and Remote Telemetry
- Built-In Programmable Logic Eliminates the Need for External Controllers Under Most Conditions
- Ethernet Based Communications Between Generators
- Programmable I/O Channel Properties
- Built-In Diagnostics
- Remote Wireless Software Update Capable
- Wi-Fi, Bluetooth, BMS and Remote Telemetry
- Built-In Programmable Logic Eliminates the Need for External Controllers Under Most Conditions
- Ethernet Based Communications Between Generators
- Programmable I/O Channel Properties
- Built-In Diagnostics

**Protections**
- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Sensor Failure
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current
- Over Load
- High/Low Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short Circuits (I^2T Algorithm)

**7 Inch Color Touch Screen Display**
- Resistive Color Touch Screen
- Sunlight Readable (1400 NITS)
- Easily Identifiable Icons
- Multi-Lingual
- On Screen Editable Parameters
- Key Function Monitoring
- Three Phase Voltage, Amperage, kW, kVA, and kVAR
- Selectable Line to Line or Line to Neutral Measurements
- Frequency
- Engine Speed
- Engine Coolant Temperature
- Engine Oil Pressure
- Engine Oil Temperature
- Battery Voltage
- Hourmeter
- Warning and Alarm Indication
- Diagnostics
- Maintenance Events/Information
### CONFIGURABLE OPTIONS

#### ENGINE SYSTEM
- Baseframe Cover/Rodent Guard
- Oil Heater
- Air Filter Restriction Indicator
- Radiator Stone Guard (Open Set Only)
- Level 1 Fan and Belt Guards (Enclosed Units Only)

#### FUEL SYSTEM
- NPT Flexible Fuel Line

#### ELECTRICAL SYSTEM
- 10A UL Listed Battery Charger
- Battery Warmer

#### 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
- Demand Response Rating
- Extended Factory Testing (3-Phase Only)
- 12 Position Load Center

#### ENCLOSURE
- Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers
- Level 3 Sound Attenuated (Steel Only)
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Enclosure Heaters (Motorized Dampers Only)
- Door Open Alarm Switch

#### CONTROL SYSTEM
- NFPA 110 Compliant 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 Communication - Modem
- 10A Engine Run Relay
- Ground Fault Annunciator
- 100 dB Alarm Horn
- 120V GFCI and 240V Outlets
- Damper Alarm (Enclosed Units Only)

#### WARRANTY (Standby Gensets Only)
- 2 Year Extended Limited Warranty
- 5 Year Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

### ENGINEERED OPTIONS

#### ENGINE SYSTEM
- Coolant Heater Ball Valves
- Fluid Containment Pan

#### ALTERNATOR SYSTEM
- 3rd Breaker System

#### CONTROL SYSTEM
- Battery Disconnect Switch

### DEMAND RESPONSE READY

- Special Testing
- Battery Box
## ENGINE SPECIFICATIONS

### General

<table>
<thead>
<tr>
<th>Make</th>
<th>Generac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder #</td>
<td>12</td>
</tr>
<tr>
<td>Type</td>
<td>V12</td>
</tr>
<tr>
<td>Displacement</td>
<td>1,336.4 (21.9)</td>
</tr>
<tr>
<td>Bore</td>
<td>5.03 (128)</td>
</tr>
<tr>
<td>Stroke</td>
<td>5.60 (142)</td>
</tr>
<tr>
<td>Compression</td>
<td>Turbocharged/Aftercooled</td>
</tr>
<tr>
<td>Intake</td>
<td>10.0:1</td>
</tr>
<tr>
<td>Number Main</td>
<td>Steel Alloy</td>
</tr>
<tr>
<td>Connecting</td>
<td>High Temp Steel Alloy</td>
</tr>
<tr>
<td>Cylinder Head</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>Cylinder Liners</td>
<td>Cast Steel Alloy</td>
</tr>
<tr>
<td>Ignition</td>
<td>Electronic</td>
</tr>
<tr>
<td>Piston Type</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>Crankshaft Type</td>
<td>Steel</td>
</tr>
<tr>
<td>Lifter Type</td>
<td>Solid</td>
</tr>
<tr>
<td>Intake Valve Material</td>
<td>High Temp Steel Alloy</td>
</tr>
<tr>
<td>Exhaust Valve Material</td>
<td>High Temp Steel Alloy</td>
</tr>
<tr>
<td>Hardened Valve Seats</td>
<td>Proprietary Alloy</td>
</tr>
<tr>
<td>Governor</td>
<td>Electronic</td>
</tr>
<tr>
<td>Frequency Regulation</td>
<td>±0.25%</td>
</tr>
</tbody>
</table>

### Cooling System

- **Type**: Pressurized Closed Recovery
- **Fan Type**: Pusher
- **Fan Speed**: 1,404 RPM
- **Fan Diameter**: 44 (1,118) in

### Fuel System

- **Type**: Natural Gas
- **Carburetor**: Down Draft
- **Secondary Fuel Regulator**: Standard
- **Fuel Shut Off Solenoid**: Standard
- **Operating Fuel Pressure**: 11 - 14 (2.7 - 3.5) in H₂O (kPa)
- **Optional Operating Fuel Pressure**: 7 - 11 (1.7 - 2.7) in H₂O (kPa)

### Engine Electrical System

- **System Voltage**: 24 VDC
- **Battery Charger Alternator**: 57 A
- **Battery Size**: See Battery Index 0161970SBY
- **Battery Voltage**: (2) - 12 VDC
- **Ground Polarity**: Negative

### Lubrication System

- **Oil Pump Type**: Gear
- **Oil Filter Type**: Full-Flow Spin On Cartridge
- **Crankcase Capacity**: 31.7 (30) qt

### Alternative Specifications

<table>
<thead>
<tr>
<th>Standard Model</th>
<th>K0500124Y23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poles</td>
<td>4</td>
</tr>
<tr>
<td>Field Type</td>
<td>Revolving</td>
</tr>
<tr>
<td>Insulation Class - Rotor</td>
<td>H</td>
</tr>
<tr>
<td>Insulation Class - Stator</td>
<td>H</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>&lt;5% (3-Phase)</td>
</tr>
<tr>
<td>Telephone Interference Factor (TIF)</td>
<td>&lt;52</td>
</tr>
</tbody>
</table>

### Standard Excitation

- **Type**: Permanent Magnet
- **Bearings**: Sealed Ball
- **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%
**POWER RATINGS**

<table>
<thead>
<tr>
<th>Standby/Demand Response</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three-Phase 120/208 VAC @0.8pf</td>
<td>450 kW/563 kVA</td>
</tr>
<tr>
<td>Three-Phase 120/240 VAC @0.8pf</td>
<td>450 kW/563 kVA</td>
</tr>
<tr>
<td>Three-Phase 277/480 VAC @0.8pf</td>
<td>450 kW/563 kVA</td>
</tr>
<tr>
<td>Three-Phase 346/600 VAC @0.8pf</td>
<td>450 kW/563 kVA</td>
</tr>
</tbody>
</table>

**MOTOR STARTING CAPABILITIES (skVA)**

<table>
<thead>
<tr>
<th>skVA vs. Voltage Dip</th>
<th>277/480 VAC 30%</th>
<th>208/240 VAC 30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>K0500124Y23 1,020</td>
<td>K0600124Y23 1,120</td>
<td></td>
</tr>
<tr>
<td>K0600124Y23 1,560</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FUEL CONSUMPTION RATES***

<table>
<thead>
<tr>
<th>Natural Gas – scfh (m³/hr)</th>
<th>Percent Load</th>
<th>Standby/Demand Response</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25%</td>
<td>1,800 (51.0)</td>
<td>1,740 (49.3)</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>2,880 (81.6)</td>
<td>2,640 (74.8)</td>
</tr>
<tr>
<td></td>
<td>75%</td>
<td>3,960 (112.1)</td>
<td>3,800 (101.9)</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>5,040 (142.7)</td>
<td>4,620 (130.8)</td>
</tr>
</tbody>
</table>

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

**COOLING**

<table>
<thead>
<tr>
<th>Standby/Demand Response</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Flow (Fan Air Flow Across Radiator) scfm (m³/min)</td>
<td>28,004 (793)</td>
</tr>
<tr>
<td>Coolant Flow gpm (Lpm)</td>
<td>211 (799)</td>
</tr>
<tr>
<td>Coolant System Capacity gal (L)</td>
<td>15.5 (58.7)</td>
</tr>
<tr>
<td>Max. Operating Ambient Temperature °F (°C)</td>
<td>122 (50)</td>
</tr>
</tbody>
</table>

**COMBUSTION AIR REQUIREMENTS**

<table>
<thead>
<tr>
<th>Flow at Rated Power - scfm (m³/min)</th>
<th>Standby/Demand Response</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>801 (22.7)</td>
<td>733 (20.8)</td>
</tr>
</tbody>
</table>

**ENGINE**

<table>
<thead>
<tr>
<th>Rated Engine Speed RPM</th>
<th>Standby/Demand Response</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,800</td>
<td>1,800</td>
<td>1,800</td>
</tr>
</tbody>
</table>

**EXHAUST**

<table>
<thead>
<tr>
<th>Exhaust Flow (Rated Output) scfm (m³/min)</th>
<th>Standby/Demand Response</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,685 (76.0)</td>
<td>2,385 (67.5)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Max. Backpressure (Post Silencer) inHg (kPa)</th>
<th>Standby/Demand Response</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75 (2.54)</td>
<td>0.75 (2.54)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exhaust Temp (Rated Output - Post Silencer) °F (°C)</th>
<th>Standby/Demand Response</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,350 (732)</td>
<td>1,297 (703)</td>
<td></td>
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</tbody>
</table>

**DERATING**

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
Demand Response - See Bulletin 10000018250
Prime - See Bulletin 0187510SSB
DIMENSIONS AND WEIGHTS*

OPEN SET (Includes Exhaust Flex)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Weight (lbs)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L x W x H</td>
<td>154.4 x 71.0 x 66.5</td>
<td>8,257 - 8,650</td>
<td>3,745 - 3,923</td>
</tr>
</tbody>
</table>

WEATHER PROTECTED ENCLOSURE

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Weight (lbs)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L x W x H</td>
<td>207.4 x 71.0 x 80.0</td>
<td>Steel: 10,055-10,840</td>
<td>Aluminum: 9,357 - 9,753</td>
</tr>
</tbody>
</table>

LEVEL 1 SOUND ATTENUATED ENCLOSURE

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Weight (lbs)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L x W x H</td>
<td>247.5 x 71.0 x 80.0</td>
<td>Steel: 11,155-11,847</td>
<td>Aluminum: 9,788 - 10,185</td>
</tr>
</tbody>
</table>

LEVEL 2 SOUND ATTENUATED ENCLOSURE

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Weight (lbs)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L x W x H</td>
<td>207.4 x 71.0 x 114.1</td>
<td>Steel: 11,783-12,185</td>
<td>Aluminum: 9,933 - 10,330</td>
</tr>
</tbody>
</table>

LEVEL 3 SOUND ATTENUATED ENCLOSURE

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Weight (lbs)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L x W x H</td>
<td>232.0 x 76.9 x 129.2</td>
<td>13,910 - 14,285</td>
<td>6,308 - 6,478</td>
</tr>
</tbody>
</table>

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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