

SD050 | 3.3L | 50 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency

GENERAC® | **INDUSTRIAL
POWER**

Standby Power Rating

50 kW, 63 kVA, 60 Hz

Prime Power Rating

45 kW, 56 kVA, 60 Hz



*Assembled in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the US or its Territories



Image used for illustration purposes only

Codes and Standards

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



UL2200, UL6200, UL1236, UL489,
UL142



CSA C22.2, ULC S601



BS5514 and DIN 6271



SAE J1349



NFPA 37, 70, 99, 110



NEC700, 701, 702, 708



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41



IBC 2009, CBC 2010, IBC 2012,
ASCE 7-05, ASCE 7-10, ICC-ES AC-
156 (2012)

Powering Ahead

For over 60 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 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.

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Level 1 Fan and Belt Guards (Open Set Only)
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Exhaust Silencer (Enclosed Units Only)

FUEL SYSTEM

- Fuel Lockoff Solenoid
- Primary Fuel Filter

COOLING SYSTEM

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze
- 120 VAC Coolant Heater

ELECTRICAL SYSTEM

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

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- 12 Leads (3-Phase, Non 600V)
- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Brushless Excitation
- Sealed Bearing
- Automated Manufacturing (Winding, Insertion, Lacing, Varnishing)
- Rotor Dynamically Spin Balanced
- Amortisseur Winding
- Full Load Capacity Alternator
- Protective Thermal Switch

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 Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Units Only)
- Silencer of Heat Shield

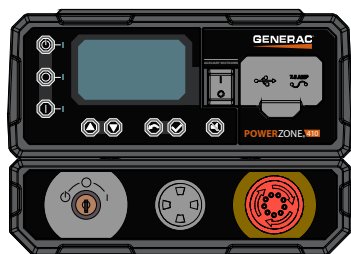
ENCLOSURE (If Selected)

- 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

FUEL TANKS (If Selected)

- UL 142/ULC S601
- Double Wall Construction
- Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested (2 psi)
- Rupture Basin Alarm
- Electronic and Visual Fuel Level Indication
- Check Valve In Supply and Return Lines
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

CONTROL SYSTEM



Power Zone® 410 Controller

Features

- Programmable Auto Crank
- Selectable Low Speed Exercise
- RS-232 x2
- RS-485 x2
- All-Phase Sensing Digital Voltage Regulator
- On/Off/Manual Switch
- Not in Auto (Flashing Light)
- Emergency Stop
- Modbus® RTU
- CANbus
- Full Range Standby Operation
- Power Factor

- Ruptured Tank Detection
- Auxiliary Shutdown Switch
- Remote Communications
- NFPA110 Module Included (Key Switch, Alarm, E-Stop)
- I²T Function for Full Generator Protection (Contact Factory)

Full System Status Display

- Multilingual 128x64 Graphical Display with Heater
- Easy Status View LED Screen
- 3-Phase AC Volts
- 3-Phase Amps
- kW
- Line Power/Gen Power
- Time
- Date
- Run Hours
- Service Reminders
- Fault History (Alarm Log)
- Oil Pressure
- Oil Temperature Indication and Alarm
- Output for Fuel Level High/Low Warning
- Water Temperature
- Water Level
- Fuel Pressure/Level
- Engine Speed

- Battery Voltage
- Alternator Frequency

Alarms and Warnings

- Common Alarm Output
- Audible Alarm and Silence

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- Oil Make-Up System
- Oil Heater
- Industrial Exhaust Silencer (Open Set)
- Two-Stage Air Cleaner

FUEL SYSTEM

- Flexible Fuel Lines
- Primary Fuel Filter

ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating
- Permanent Magnet Excitation

GENERATOR SET

- Extended Factory Testing (3-Phase Only)
- 8 Position Load Center

CIRCUIT BREAKER OPTIONS

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

ENCLOSURE

- Level 0 Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Door Open Alarm Switch
- Enclosure Heater (with Motorized Dampers 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

CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Oil Temperature Sender with 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 Engine Run Relay
- Ground Fault Annunciator

FUEL TANKS (Size On Last Page)

- Electric Fuel Level
- Mechanical Fuel Level
- 8 in (203.2 mm) Fill Extension
- 13 in (330.2 mm) Fill Extension
- 19 in (482.6 mm) Fill Extension

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant Heater Ball Valves
- Fluid Containment Pan
- Block Heaters

CONTROL SYSTEM

- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

ALTERNATOR SYSTEM

- 3rd Breaker System

GENERATOR SET

- Special Testing
- IBC Seismic Certification

FUEL TANKS

- Overfill Protection Valve
- UL2085 Tank
- Stainless Steel Tanks
- Special Fuel Tanks (MIDEQ and FL DEP/DERM, etc.)
- Vent Extensions

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

| | |
|------------------------------------|--------------------------|
| Make | Mitsubishi |
| Cylinder # | 4 |
| Type | In-Line |
| Displacement - in ³ (L) | 203.3 (3.331) |
| Bore - in (mm) | 3.7 (94) |
| Stroke - in (mm) | 4.72 (120) |
| Compression Ratio | 19:1 |
| Intake Air Method | Turbocharged/Aftercooled |
| Cylinder Head | Cast Iron |
| Ignition | CI |
| Piston Type | Aluminum |

Engine Governing

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

Lubrication System

| | |
|-----------------------------|---------------------|
| Oil Pump Type | Gear |
| Oil Filter Type | Full Flow Cartridge |
| Crankcase Capacity - qt (L) | 11.2 (10.6) |

Cooling System

| | |
|------------------------|-----------------|
| Cooling System Type | Closed Recovery |
| Fan Type | Pusher |
| Fan Speed - RPM | 2,340 |
| Fan Diameter - in (mm) | 20 (508) |

Fuel System

| | |
|----------------------------|---------------------------------|
| Fuel Type | Ultra Low Sulfur Diesel Fuel #2 |
| Fuel Filtering (Microns) | 10 Primary and 2 Secondary |
| Fuel Pump Type | In-Line |
| Injector Type | Mechanical |
| Fuel Supply Line - in (mm) | 0.31 (7.94) NPT |
| Fuel Return Line - in (mm) | 0.31 (7.94) NPT |

Engine Electrical System

| | |
|----------------------------|------------------------------|
| System Voltage | 12 VDC |
| Battery Charger Alternator | 50 A |
| Battery Size | See Battery Index 0161970SBY |
| Battery Voltage | 12 VDC |
| Ground Polarity | Negative |

ALTERNATOR SPECIFICATIONS

| | |
|-------------------------------------|--------------------|
| Standard Model | K0050124Y21 |
| Poles | 4 |
| Field Type | Revolving |
| Insulation Class - Rotor | H |
| Insulation Class - Stator | H |
| Total Harmonic Distortion | <5% (3-Phase Only) |
| Telephone Interference Factor (TIF) | <50 |

| | |
|------------------------------------|--------------------------|
| Standard Excitation | Synchronous Brushless |
| Bearings | Sealed Ball |
| Coupling | Direct via Flexible Disc |
| Load Capacity - Standby | 100% |
| Prototype Short Circuit Test | Yes |
| Voltage Regulator Type | Digital |
| Number of Sensed Phases | All |
| Regulation Accuracy (Steady State) | ± 0.25% |

OPERATING DATA

POWER RATINGS

| Standby | | |
|---------------------------------|--------------|-----------|
| Single-Phase 120/240 VAC @1.0pf | 50 kW/50 kVA | Amps: 208 |
| Three-Phase 120/208 VAC @0.8pf | 50 kW/63 kVA | Amps: 174 |
| Three-Phase 120/240 VAC @0.8pf | 50 kW/63 kVA | Amps: 151 |
| Three-Phase 277/480 VAC @0.8pf | 50 kW/63 kVA | Amps: 75 |
| Three-Phase 346/600 VAC @0.8pf | 50 kW/63 kVA | Amps: 60 |

MOTOR STARTING CAPABILITIES (sKVA)

| skVA vs. Voltage Dip | | | | | |
|----------------------|-----|----------------|-----|----------------|-----|
| 120/240 VAC 1Ø | 30% | 277/480 VAC 3Ø | 30% | 208/240 VAC 3Ø | 30% |
| A0050044N21 | 31 | K0050124Y21 | 98 | K0050124Y21 | 75 |
| A0060044N21 | 40 | K0060124Y21 | 124 | K0060124Y21 | 95 |

FUEL CONSUMPTION RATES*

| Fuel Pump Lift - ft (m) | | Diesel - gph (Lph) | |
|--|--|--------------------|------------|
| | | Percent Load | Standby |
| 4.5 (1.4) | | 25% | 1.2 (4.5) |
| | | 50% | 2.3 (8.7) |
| Total Fuel Pump Flow (Combustion + Return) - gph (Lph) | | 75% | 3.4 (12.9) |
| 3.57 (13.51) | | 100% | 4.5 (17.0) |

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

COOLING

| Standby | | |
|---|-----------------------------|--------------|
| Air Flow (Fan Air Flow Across Radiator) - Open Set | cfm (m³/hr) | 2,500 (70.8) |
| Coolant Flow | gpm (Lpm) | 34.0 (128.7) |
| Coolant System Capacity | gal (L) | 3.0 (11.4) |
| Maximum Operating Ambient Temperature | °F (°C) | 122 (50) |
| Maximum Operating Ambient Temperature (Before Derate) | See Bulletin No. 0199270SSD | |
| Maximum Additional Radiator Backpressure | in H ₂ O (kPa) | 0.5 (0.1) |

COMBUSTION AIR REQUIREMENTS

| Standby | |
|------------------------------------|----------|
| Flow at Rated Power - cfm (m³/min) | 90 (2.5) |

ENGINE

| Standby | | |
|--------------------------|----------------|---------------|
| Rated Engine Speed | RPM | 1,800 |
| Horsepower at Rated kW** | hp | 85 |
| Piston Speed | ft/min (m/min) | 1,416 (431.6) |
| BMEP | psi (kPa) | 118 (814) |

EXHAUST

| Standby | | |
|--|--------------|-----------|
| Exhaust Flow (Rated Output) | cfm (m³/min) | 230 (6.5) |
| Maximum Allowable Backpressure (Post Silencer) | inHg (kPa) | 1.5 (5.1) |
| Exhaust Temperature (Rated Output) | °F (°C) | 900 (482) |

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

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

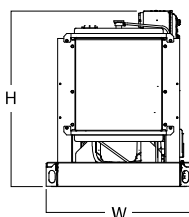
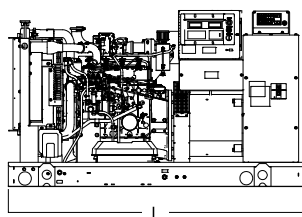
SD050 | 3.3L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

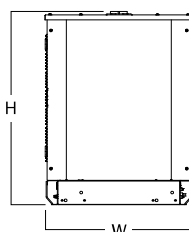
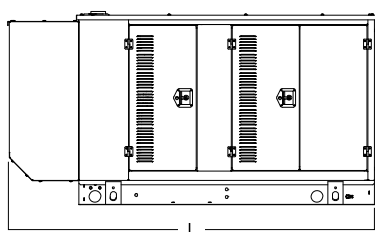
GENERAC® | **INDUSTRIAL POWER**

DIMENSIONS AND WEIGHTS*



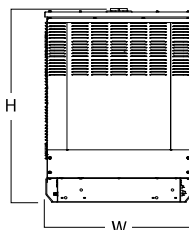
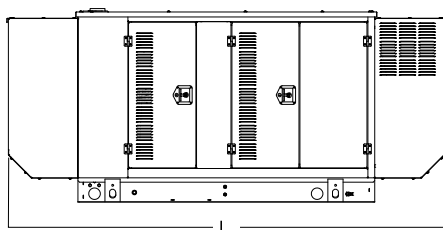
OPEN SET

| Run Time - Hours | Usable Capacity - Gal (L) | L x W x H - in (mm) | Weight - lbs (kg) |
|---------------------|---------------------------------|---|-------------------------------|
| No Tank | - | 76.0 (1,930) x 37.4 (950) x 45.2 (1,148) | 1,765 - 1,838 (801 - 834) |
| 12 | 54 (204) | 76.0 (1,930) x 37.4 (950) x 58.2 (1,478) | 2,254 - 2,327 (1,019 - 1,052) |
| 29 | 132 (500) | 76.0 (1,930) x 37.4 (950) x 70.2 (1,783) | 2,475 - 2,548 (1,123 - 1,156) |
| 42 | 190 (719) | 106.0 (2,692) x 37.4 (950) x 71.2 (1,808) | 2,689 - 2,762 (1,221 - 1,254) |
| 46 | 211 (799) | 76.0 (1,930) x 37.4 (950) x 82.2 (2,088) | 2,684 - 2,757 (1,218 - 1,251) |
| 66 | 300 (1,136) | 92.9 (2,360) x 37.4 (950) x 85.7 (2,177) | 2,747 - 2,820 (1,246 - 1,279) |



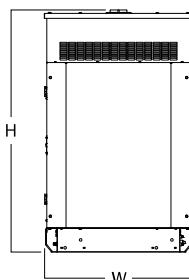
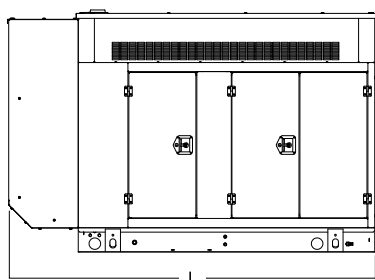
WEATHER PROTECTED ENCLOSURE

| Run Time - Hours | Usable Capacity - Gal (L) | L x W x H - in (mm) | Weight - lbs (kg) Enclosure Only | |
|---------------------|---------------------------------|---|-------------------------------------|-----------|
| | | | Steel | Aluminum |
| No Tank | - | 94.8 (2,408) x 38.0 (965) x 49.5 (1,257) | 448 (203) | 225 (102) |
| 12 | 54 (204) | 94.8 (2,408) x 38.0 (965) x 62.5 (1,588) | | |
| 29 | 132 (500) | 94.8 (2,408) x 38.0 (965) x 74.5 (1,892) | | |
| 42 | 190 (719) | 106.0 (2,692) x 38.0 (965) x 75.5 (1,917) | | |
| 46 | 211 (799) | 94.8 (2,408) x 38.0 (965) x 86.5 (2,197) | | |
| 66 | 300 (1,136) | 94.8 (2,408) x 38.0 (965) x 90.0 (2,286) | | |



LEVEL 1 SOUND ATTENUATED ENCLOSURE

| Run Time - Hours | Usable Capacity - Gal (L) | L x W x H - in (mm) | Weight - lbs (kg) Enclosure Only | |
|---------------------|---------------------------------|---|-------------------------------------|-----------|
| | | | Steel | Aluminum |
| No Tank | - | 112.5 (2,858) x 38.0 (965) x 49.5 (1,257) | 527 (239) | 259 (117) |
| 12 | 54 (204) | 112.5 (2,858) x 38.0 (965) x 62.5 (1,588) | | |
| 29 | 132 (500) | 112.5 (2,858) x 38.0 (965) x 74.5 (1,892) | | |
| 42 | 190 (719) | 112.5 (2,858) x 38.0 (965) x 75.5 (1,917) | | |
| 46 | 211 (799) | 112.5 (2,858) x 38.0 (965) x 86.5 (2,197) | | |
| 66 | 300 (1,136) | 112.5 (2,858) x 38.0 (965) x 90.0 (2,286) | | |



LEVEL 2 SOUND ATTENUATED ENCLOSURE

| Run Time - Hours | Usable Capacity - Gal (L) | L x W x H - in (mm) | Weight - lbs (kg) Enclosure Only | |
|---------------------|---------------------------------|---|-------------------------------------|-----------|
| | | | Steel | Aluminum |
| No Tank | - | 94.8 (2,408) x 38.0 (965) x 61.9 (1,572) | 617 (280) | 325 (147) |
| 12 | 54 (204) | 94.8 (2,408) x 38.0 (965) x 74.9 (1,903) | | |
| 29 | 132 (500) | 94.8 (2,408) x 38.0 (965) x 86.9 (2,207) | | |
| 42 | 190 (719) | 106.0 (2,692) x 38.0 (965) x 87.9 (2,232) | | |
| 46 | 211 (799) | 94.8 (2,408) x 38.0 (965) x 98.9 (2,512) | | |
| 66 | 300 (1,136) | 94.8 (2,408) x 38.0 (965) x 102.4 (2,601) | | |

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.