

SDC20 | 2.5L | 20 kW - AC INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL
POWER

Model G007098-0 (Steel)

Standby Power Rating

20 kW AC, 60 Hz



Image used for illustration purposes only

Codes and Standards

Generac products are designed to the following standards:

 UL2200, UL508, UL142, UL489

 NFPA 37, 70, 99, 110

 NEC700, 701, 702, 708

 ISO 3046, 7637, 8528, 9001

 NEMA ICS10, MG1, 250, ICS6, AB1

 **ANSI**
American National Standards Institute ANSI C62.41

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 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 with Service Indicator
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Exhaust Silencer with Drain
- Factory Filled Oil & Coolant

Fuel System

- Primary Fuel Filter

Cooling System

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

Electrical System

- Battery Charging Alternator
- AGM Spill Proof Battery
- Battery Cables
- Sealed/Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor
- Output Circuit Breaker

ALTERNATOR SYSTEM

- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Amortisseur Winding
- Brushless Excitation
- Sealed Bearings
- Rotor Dynamically Spin Balanced
- Full Load Capacity Alternator
- Protective Thermal Shutdown

GENERATOR SET

- Single Side Service
- Internal Genset Vibration Isolators
- Separation of Circuits- High/Low Voltage
- Silencer Heat Shield
- High Heat Wrapped Exhaust Piping
- Silencer Enclosed Within Generator
- 5 Year Extended Warranty
- Extended Factory Testing
- 12 Gallon System Spill Containment
- 2.5 Gallon Fuel Fill Spill Containment

ENCLOSURE

- Serviceable Items Accessible Through Lift-Off Door
- High Performance Sound-Absorbing Material
- Gasketed Door
- Stamped Air-Intake Louvers
- Single Door Latch Lockable with Key & Padlock
- Rhino Coat™ - Textured Polyester Powder Coat
- 150 MPH Wind Rating
- 36" Snow Rating

FUEL TANK

- UL 142 Compliant
- Double Wall Construction
- Factory Pressure Tested (5 psi)
- Rupture Basin Alarm
- Fuel Level Gauge and Sender
- Check Valve in Supply Line
- Rhino Coat™ - Textured Polyester Powder Coat
- Stainless Steel Hardware
- Integrated Fork Pockets

CONTROL SYSTEM

- Digital H Control Panel - Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485 Communications
- All-Phase Sensing Voltage Regulator
- Full System Status
- 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)
- 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 Connections
- 15 Channel Data Logging
- 0.2 msec High Speed Data Logging
- Alarm Information Automatically Comes Up On the Display

Alarms

- Generator Run- Dry Contact
- Major Alarm- Dry Contact
- Minor Alarm- Dry Contact
- Low Fuel Alarm- Dry Contact
- Rupture Basin Alarm- Dry Contact
- 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)

MODEL OPTIONS**CONTROL SYSTEM**

- 21 Light Annunciator- Shipped Loose Kit and Field Installed
- External E-Stop-Shipped Loose Kit and Field Installed

ENCLOSURE

- Aluminum Enclosure
- Extreme Cold Weather Kit - Shipped Loose Kit and Field Installed

TANKS

- External Fuel Vent- Shipped Loose Kit and Field Installed

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APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

| | |
|--------------------------|---------------------|
| Make | Mitsubishi |
| EPA Emissions Compliance | Interim Tier 4 |
| Cylinder # | 4 |
| Type | In-Line |
| Displacement - L (Cu In) | 2.5 (158) |
| Bore - mm (in) | 88 (3.5) |
| Stroke - mm (in) | 103 (4.1) |
| Compression Ratio | 22:1 |
| Intake Air Method | Naturally Aspirated |

Engine Governing

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

Lubrication System

| | |
|------------------------------|----------------------------|
| Oil Pump Type | Trochoid Gear Pump |
| Oil Filter Type | Filtering Paper, Full Flow |
| Crankcase Capacity - L (qts) | 6.5 (6.9) |

Cooling System

| | |
|------------------------|--------------------|
| Cooling System Type | Forced Circulation |
| Water Pump Type | Centrifugal Pump |
| Fan Type | Pusher |
| Fan Speed (rpm) | 2100 |
| Fan Diameter - mm (in) | 431.8 (17) |
| Coolant Heater Wattage | 1000 |
| Coolant Heater Voltage | 120 |

Fuel System

| | |
|-----------------------------|----------------------------|
| Fuel Type | Ultra Low Sulfur Diesel #2 |
| Fuel Specifications | ASTM |
| Fuel Filtering (microns) | 6 |
| Fuel Inject Pump Make | Bosch |
| Injector Type | Engine Driven Gear |
| Engine Type | Diesel |
| Fuel Supply Line - mm (in.) | 6.6 (0.26) |

Engine Electrical System

| | |
|----------------------------|----------|
| System Voltage | 12 VDC |
| Battery Charger Alternator | 12V-50A |
| Battery Size | 650 CCA |
| Battery Group | 35 |
| Battery Voltage | 12 VDC |
| Ground Polarity | Negative |

ALTERNATOR SPECIFICATIONS

| | |
|-------------------------------------|-----------------------|
| Standard Model | Mecc Alte ECP 28-2L/4 |
| Poles | 4 |
| Field Type | Revolving |
| Insulation Class - Rotor | H |
| Insulation Class - Stator | H |
| Total Harmonic Distortion | <5% |
| Telephone Interference Factor (TIF) | <45 |
| Standard Excitation | Brushless |

| | |
|------------------------------------|--------------|
| Bearings | Dual Sealed |
| Coupling | Belt, Pulley |
| Load Capacity - Standby | 100% |
| Prototype Short Circuit Test | Yes |
| Voltage Regulator Type | Digital |
| Number of Sensed Phases | All |
| Regulation Accuracy (Steady State) | ±0.5% |

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

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OPERATING DATA

POWER RATINGS

| | | |
|---------------------------------|-------|----------|
| Single-Phase 120/240 VAC @1.0pf | 20 kW | Amps: 83 |
| Circuit Breaker Size | 100A | |

FUEL CONSUMPTION RATES*

| Diesel - gph (lph) | |
|--------------------|-------------|
| Percent Load | Standby |
| 25% | 0.74 (2.80) |
| 50% | 0.99 (3.75) |
| 75% | 1.41 (5.30) |
| 100% | 1.90 (7.19) |

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

COOLING

| | | Standby |
|--|---------------------------|------------|
| Coolant Flow per Minute | gpm (lpm) | 11.9 (45) |
| Coolant System Capacity | gal (L) | 3.5 (13.2) |
| Heat Rejection to Coolant | BTU/hr | 238,200 |
| Inlet Air | cfm (m ³ /min) | 2365 (67) |
| Max. Operating Ambient Temperature (Before Derate) | °F (°C) | 77° (25°) |
| Maximum Radiator Backpressure | in H ₂ O | 0.50 |

COMBUSTION AIR REQUIREMENTS

| | Standby |
|---|-----------|
| Flow at Rated Power cfm (m ³ /min) | 88 (2.49) |

ENGINE

| | | Standby |
|--------------------------|--------|---------|
| Rated Engine Speed | rpm | 1800 |
| Horsepower at Rated kW** | hp | 33.5 |
| Piston Speed | ft/min | 1220.47 |
| BMEP | psi | 96.5 |

EXHAUST

| | | Standby |
|---|---------------------------|-------------|
| Exhaust Flow (Rated Output) | cfm (m ³ /min) | 193 (328) |
| Max. Backpressure (Post Silencer) | inHg (kPa) | 1.38 (4.67) |
| Exhaust Temp (Rated Output - Post Silencer) | °F (°C) | 928 (497.7) |

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

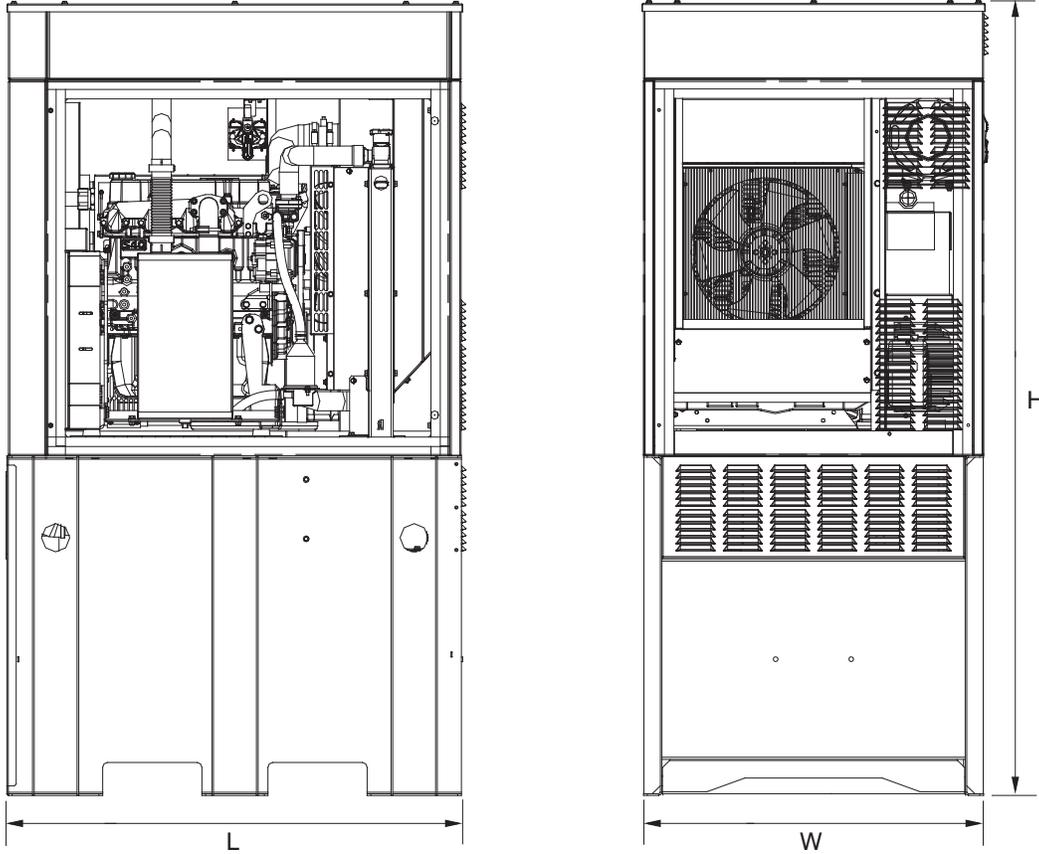
Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

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DIMENSIONS AND WEIGHTS*



Level 2 Sound Attenuation Enclosure

| | |
|-------------------------|---|
| Run Time Hours | 48 |
| Usable Capacity Gal (L) | 92 (348.2) |
| L x W x H in (mm) | 48 x 36 x 90 (1219.2 x 914.4 x 2286) |
| Weight lbs (kg) | 2400 (1089) |
| Sound Level | 71 dBA |

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

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