SD800 | 33.9L | 800 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency

**STANDBY POWER RATING**
800 kW, 1000 kVA, 60 Hz

**PRIME POWER RATING** *
720 kW, 900 kVA, 60 Hz

*Built in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the U.S. or its Territories.

**Certain options or customization may not hold certification valid.

**CODES AND STANDARDS**
Generac products are designed to the following standards:

- UL2200, UL508, UL142, UL498
- NFPA70, 99, 110, 37
- NEC700, 701, 702, 708
- ISO9001, 8528, 3046, 7637, Pluses #2b, 4
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41

**POWERING AHEAD**
For over 50 years, Generac has led the industry with 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 application under adverse conditions.

Generac is committed to ensuring our customers’ service support continues after their generator purchase.
ENGINE SYSTEM

General
- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Hospital Grade Silencer
- Factory Filled Oil & Coolant
- Radiator Duct Adapter (open set only)

Fuel System
- Flexible fuel lines
- Primary and secondary fuel filters

Cooling System
- Closed Coolant Recovery System
- UV/Ozone resistant hoses
- Factory-Installed Radiator
- 50/50 Ethylene glycol antifreeze
- Coolant Heater with Isolation Valves

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

ENGINE ELECTRICAL SYSTEM
- Battery charging alternator
- Battery cables
- Battery tray
- Solenoid activated starter motor
- Rubber-booted engine electrical connections

CONTROL SYSTEM

Control Panel
- IntelliGen NT Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- Full System Status
- Utility Monitoring
- Low Fuel Pressure Indication
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total
- 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
- Auto/O/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
- 15 channel data logging
- 20 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)

TANKS (IF SELECTED)
- UL 142
- Double wall
- Vents
- Sloped top
- Sloped bottom
- Factory pressure tested (2 psi)
- Rupture basin alarm
- Fuel level
- Check valve in supply and return lines
- Stainless hardware

ENCLOSURE (IF SELECTED)
- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material (L1 & L2)
- Gasketed doors
- Stamped air-intake louvers
- Vertical Discharge Hoods
- Polished steel lift on door hinges
- Polished steel lockable handles

REMARKS

SD800 | 33.9L | 800 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency
### CONFIGURABLE OPTIONS

#### ENGINE SYSTEM
- General
  - 50º C Ambient Cooling System
  - Heavy Duty Air Cleaner
  - Critical & Hospital Grade Silencers
  - CCV (Closed Crankcase Ventilation)

- Fuel Electrical System
  - 10A & 20A UL battery charger
  - Battery Warmer

#### ALTERNATOR SYSTEM
- Alternator Upsizing
- Anti-Condensation Heater

#### CIRCUIT BREAKER OPTIONS
- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breaker

#### ENGINEERED OPTIONS

#### ENGINE SYSTEM
- Fluid containment Pans/not plural
- Oil Heater
- Stainless Steel Hardware

#### ALTERNATOR SYSTEM
- 3rd Breaker Systems
- Unit Mounted Load Banks
- Medium Voltage Alternators

#### CONTROL SYSTEM
- Spare inputs (x4) / outputs (x4)
- Battery Disconnect Switch

#### GENERATOR SET
- Intelimonitor Communications Software
  (English Only)
- 8 Load Position Load Center
- AC Electrical Lighting Package (ELP)
- 5 Year Warranty
- 5 Year Extended Warranty
- Spring Isolators (Standard/Seismic)

#### ENCLOSURE
- Weather Protected Enclosure
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation
- Steel Enclosure
- Aluminum Enclosure
- 150/180 MPH Wind Rating
- Louvers with Gravity Dampers
- Enclosure Heaters

#### TANKS (Size on last page)
- Electrical Fuel Level
- Mechanical Fuel Level
- 12 Hour Run Time
- 24 Hour Run Time
- Fuel Line Kits
- Fuel Water Separator

#### CONTROL SYSTEM
- NFPA 110 Compliant
- Remote Relay Board (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 - Bridge
- Remote Communication - Ethernet
- 10A Run Relay, 12 outputs
- Ground Fault Indication and Protection Functions

#### TANKS
- Overfill Protection Valve
- UL2085 Tank
- ULC S-601 Tank
- Stainless Steel Tank
- Special Fuel Tanks (MIDEQ and FL DEP/DERM, etc.)
- Vent Extensions
- Transfer Pumps and Controllers
- Fuel Tank Heaters

### 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
# ENGINE SPECIFICATIONS

## General
- **Make**: Mitsubishi
- **EPA Emissions Compliance**: Tier 2
- **EPA Emissions Reference**: See Emissions Data Sheet
- **Cylinder #**: 12
- **Type**: 4 Cycle
- **Displacement - L (cu In)**: 33.9 (2071)
- **Bore - mm (in)**: 150 (5.91)
- **Stroke - mm (in)**: 160 (6.30)
- **Compression Ratio**: 15.3:1
- **Intake Air Method**: Turbocharged/Intercooled
- **Cylinder Head Type**: 4 - Valve
- **Piston Type**: Aluminium
- **Crankshaft Type**: Drop Forged Steel

## Engine Governing
- **Governor**: Proact2 Isochronous
- **Frequency Regulation (Steady State)**: +/- 0.25%

## Lubrication System
- **Oil Pump Type**: Gear
- **Oil Filter Type**: Cartridge
- **Crankcase Capacity - L (qts)**: 100 (106)

## Cooling System
- **Cooling System Type**: Unit Mounted Radiator
- **Water Pump**: Centrifugal
- **Fan Type**: Pusher
- **Fan Speed (rpm)**: 1085
- **Fan Diameter mm (in)**: 1625 (64)
- **JW Coolant Heater Standard Wattage**: 6000
- **After Coolant Heater Standard Wattage**: 2500
- **Coolant Heater Standard Voltage**: 240-1

## Fuel System
- **Fuel Type**: Ultra Low Sulfur Diesel #2
- **Fuel Specifications**: Diesel #2
- **Fuel Filtering (microns)**: 10 (final filters)
- **Fuel Injection**: Mechanical
- **Fuel Pump Type**: Engine Driven Gear
- **Injector Type**: Bosch PType x 2
- **Engine Type**: S12A2-Y2PTAW-2
- **Fuel Supply Line mm (in)**: 19.0 (3/4” NPT)
- **Fuel Return Line mm (in)**: 19.0 (3/4” NPT)

## Engine Electrical System
- **System Voltage**: 24 VDC
- **Battery Charging Alternator**: Std
- **Battery Size**: See Battery Index
  - **Battery Group**: 8D
- **Battery Voltage**: (2) - 12 VDC
- **Ground Polarity**: Negative

---

# ALTERNATOR SPECIFICATIONS

- **Standard Model**: 800kW, 125°C, NEMA H
- **Poles**: 4
- **Field Type**: Rotating
- **Insulation Class - Rotor**: H
- **Insulation Class - Stator**: H
- **Total Harmonic Distortion**: <5%
- **Telephone Interference Factor (TIF)**: <50

- **Standard Excitation**: Permanent Magnet
- **Bearsings**: Single Sealed Cartridge
- **Coupling**: Direct, Flexible Disc
- **Load Capacity - Standby**: 100%
- **Prototype Short Circuit Test**: Yes
- **Voltage Regulator Type**: Analog
- **Regulation Accuracy (Steady State)**: ±0.5%
OPERATING DATA

POWER RATINGS

<table>
<thead>
<tr>
<th>Description</th>
<th>Standby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three-Phase 120/208 VAC @0.8pf</td>
<td>800 kW</td>
</tr>
<tr>
<td>Three-Phase 120/240 VAC @0.8pf</td>
<td>800 kW</td>
</tr>
<tr>
<td>Three-Phase 277/480 VAC @0.8pf</td>
<td>800 kW</td>
</tr>
<tr>
<td>Three-Phase 347/600 VAC @0.8pf</td>
<td>800 kW</td>
</tr>
</tbody>
</table>

FUEL CONSUMPTION RATES*

<table>
<thead>
<tr>
<th>Description</th>
<th>Standby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Pump Lift - ft (m)</td>
<td>3 (1)</td>
</tr>
<tr>
<td>Total Fuel Pump Flow (Combustion + Return) - gph (lph)</td>
<td>148 (560.2)</td>
</tr>
</tbody>
</table>

COOLING

<table>
<thead>
<tr>
<th>Description</th>
<th>Standby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coolant Flow per Minute gpm</td>
<td>291</td>
</tr>
<tr>
<td>Coolant System Capacity gal</td>
<td>61</td>
</tr>
<tr>
<td>Heat Rejection to Coolant BTU/min</td>
<td>20,418</td>
</tr>
<tr>
<td>Inlet Air - 40°C Cooling Package cfm</td>
<td>35,900</td>
</tr>
<tr>
<td>Inlet Air - 50°C Cooling Package cfm</td>
<td>40,100</td>
</tr>
<tr>
<td>Maximum Additional Radiator Backpressure in H₂O</td>
<td>0.5</td>
</tr>
</tbody>
</table>

COMBUSTION AIR REQUIREMENT

<table>
<thead>
<tr>
<th>Description</th>
<th>Standby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow at Rated Power cfm (m³/min)</td>
<td>3107 (88)</td>
</tr>
</tbody>
</table>

ENGINE

<table>
<thead>
<tr>
<th>Description</th>
<th>Standby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Engine Speed rpm</td>
<td>1800</td>
</tr>
<tr>
<td>Horsepower at Rated kW** hp</td>
<td>1207</td>
</tr>
<tr>
<td>Piston Speed ft/min</td>
<td>1890</td>
</tr>
<tr>
<td>BMEP psi</td>
<td>256</td>
</tr>
</tbody>
</table>

EXHAUST

<table>
<thead>
<tr>
<th>Description</th>
<th>Standby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust Flow (Rated Output) cfm (m³/min)</td>
<td>8192 (232)</td>
</tr>
<tr>
<td>Max. Backpressure (Post Turbo) inHg (Kpa)</td>
<td>1.7 (5.9)</td>
</tr>
<tr>
<td>Exhaust Temp (Rated Output - post silencer) °F (°C)</td>
<td>953 (497)</td>
</tr>
<tr>
<td>Exhaust Outlet Size (Open Set) mm (in)</td>
<td>JIS200A</td>
</tr>
</tbody>
</table>

** 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.
SD800 | 33.9L | 800 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency

DIMENSIONS AND WEIGHTS*

**OPEN SKID**

<table>
<thead>
<tr>
<th>RUN TIME HOURS</th>
<th>USABLE CAPACITY GAL (L)</th>
<th>L x W x H in (mm)</th>
<th>WT lbs (kg) - Tank &amp; Open Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO TANK</td>
<td>-</td>
<td>180 (4565) x 83 (2098) x 95 (2398)</td>
<td>22496 (10204)</td>
</tr>
<tr>
<td>12</td>
<td>800 (3029)</td>
<td>201 (5105) x 103 (2608) x 119 (3002)</td>
<td>26446 (11996)</td>
</tr>
<tr>
<td>24</td>
<td>1600 (6058)</td>
<td>201 (5105) x 103 (2608) x 132 (3332)</td>
<td>27822 (12620)</td>
</tr>
</tbody>
</table>

**WEATHER RESISTANT**

<table>
<thead>
<tr>
<th>RUN TIME HOURS</th>
<th>USABLE CAPACITY GAL (L)</th>
<th>L x W x H in (mm)</th>
<th>WT lbs (kg) - Tank &amp; Open Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO TANK</td>
<td>-</td>
<td>235 (5969) x 98 (2489) x 171 (4326)</td>
<td>28049 (12723)</td>
</tr>
<tr>
<td>12</td>
<td>800 (3029)</td>
<td>235 (5969) x 104 (2659) x 175 (4442)</td>
<td>30078 (13642)</td>
</tr>
<tr>
<td>24</td>
<td>1600 (6058)</td>
<td>235 (5969) x 104 (2659) x 188 (4772)</td>
<td>31454 (14268)</td>
</tr>
</tbody>
</table>

**LEVEL 1 SOUND ATTENUATED**

<table>
<thead>
<tr>
<th>RUN TIME HOURS</th>
<th>USABLE CAPACITY GAL (L)</th>
<th>L x W x H in (mm)</th>
<th>WT lbs (kg) - Tank &amp; Open Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO TANK</td>
<td>-</td>
<td>289 (7341) x 100 (2523) x 170 (4299)</td>
<td>31454 (14268)</td>
</tr>
<tr>
<td>12</td>
<td>800 (3029)</td>
<td>289 (7341) x 106 (2693) x 170 (4298)</td>
<td>33067 (14999)</td>
</tr>
<tr>
<td>24</td>
<td>1600 (6058)</td>
<td>289 (7341) x 106 (2693) x 179 (4526)</td>
<td>34217 (15521)</td>
</tr>
</tbody>
</table>

**LEVEL 2 SOUND ATTENUATED**

<table>
<thead>
<tr>
<th>RUN TIME HOURS</th>
<th>USABLE CAPACITY GAL (L)</th>
<th>L x W x H in (mm)</th>
<th>WT lbs (kg) - Tank &amp; Open Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO TANK</td>
<td>-</td>
<td>340 (8633) x 150 (3810) x 170 (4299)</td>
<td>32633 (14802)</td>
</tr>
<tr>
<td>12</td>
<td>800 (3029)</td>
<td>340 (8633) x 150 (3810) x 170 (4298)</td>
<td>35388 (16052)</td>
</tr>
<tr>
<td>24</td>
<td>1600 (6058)</td>
<td>340 (8633) x 150 (3810) x 179 (4526)</td>
<td>36538 (16574)</td>
</tr>
</tbody>
</table>

*All measurements are approximate and for estimation purposes only. Sound dBA can be found on the sound data sheet. Enclosure Only weight is added to Tank & Open Set weight to determine total weight.

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.