

**SD040 | 3.3L | 40 kW**  
**INDUSTRIAL DIESEL GENERATOR SET**  
EPA Certified Stationary Emergency

**GENERAC®** | **INDUSTRIAL  
POWER**

**Standby Power Rating**

40 kW, 50 kVA, 60 Hz

**Prime Power Rating**

36 kW, 45 kVA, 60 Hz



Image used for illustration purposes only



\*Assembled in the USA using domestic and foreign parts

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

## 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 Guard (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)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Units Only)
- Silencer of Heat Shield

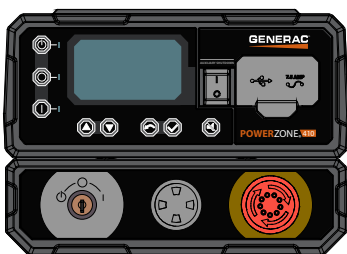
### ENCLOSURE (If Selected)

- 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)
- I<sup>2</sup>T 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

# SD040 | 3.3L | 40 kW

## INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

**GENERAC®** | **INDUSTRIAL**  
**POWER**

### 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

- 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 Indication and 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 <sup>3</sup> (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	K0040124Y21
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%

# SD040 | 3.3L | 40 kW

## INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

**GENERAC®** | **INDUSTRIAL POWER**

### OPERATING DATA

#### POWER RATINGS

Standby		
Single-Phase 120/240 VAC @1.0pf	40 kW/40 kVA	Amps: 167
Three-Phase 120/208 VAC @0.8pf	40 kW/50 kVA	Amps: 139
Three-Phase 120/240 VAC @0.8pf	40 kW/50 kVA	Amps: 120
Three-Phase 277/480 VAC @0.8pf	40 kW/50 kVA	Amps: 60
Three-Phase 346/600 VAC @0.8pf	40 kW/50 kVA	Amps: 48

#### MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip					
120/240 VAC 1Ø	30%	277/480 VAC 3Ø	30%	208/240 VAC 3Ø	30%
A0040044N21	24	K0040124Y21	76	K0040124Y21	58
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%	0.9 (3.4)
	50%	1.8 (6.8)
	75%	2.7 (10.2)
	100%	3.6 (13.6)
	* Fuel supply installation must accommodate fuel consumption rates at 100% load.	
Total Fuel Pump Flow (Combustion + Return) - gph (Lph)		
3.57 (13.51)		

#### 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 <sub>2</sub> 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

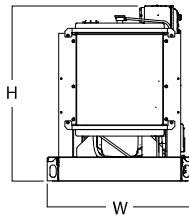
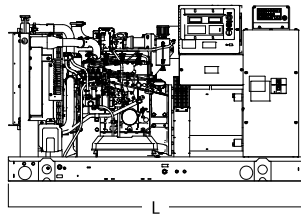
# SD040 | 3.3L | 40 kW

## INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

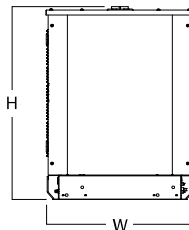
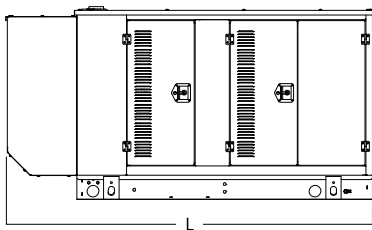
**GENERAC®** | **INDUSTRIAL POWER**

### DIMENSIONS AND WEIGHTS\*



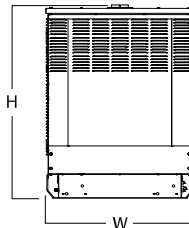
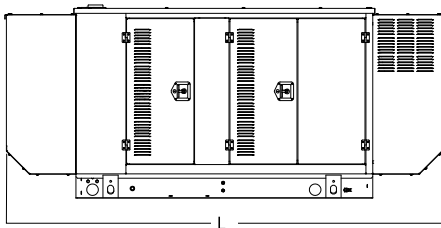
#### OPEN SET

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)	1,710 - 1,838 (776 - 834)	
15	54 (204)	76.0 (1,930) x 37.4 (950) x 58.2 (1,478)	2,199 - 2,327 (994 - 1,052)	
36	132 (500)	76.0 (1,930) x 37.4 (950) x 70.2 (1,783)	2,420 - 2,548 (1,098 - 1,156)	
52	190 (719)	106.0 (2,692) x 37.4 (950) x 71.2 (1,808)	2,634 - 2,762 (1,196 - 1,254)	
58	211 (799)	76.0 (1,930) x 37.4 (950) x 82.2 (2,088)	2,629 - 2,757 (1,193 - 1,251)	
83	300 (1,136)	92.9 (2,360) x 37.4 (950) x 85.7 (2,177)	2,692 - 2,820 (1,221 - 1,279)	



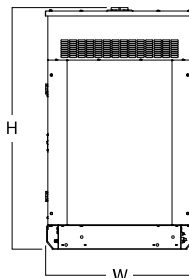
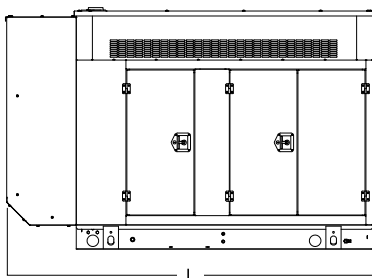
#### LEVEL 0 SOUND ATTENUATED ENCLOSURE

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 49.5 (1,257)	448 (203)	225 (102)
15	54 (204)	94.8 (2,408) x 38.0 (965) x 62.5 (1,588)		
36	132 (500)	94.8 (2,408) x 38.0 (965) x 74.5 (1,892)		
52	190 (719)	106.0 (2,692) x 38.0 (965) x 75.5 (1,917)		
58	211 (799)	94.8 (2,408) x 38.0 (965) x 86.5 (2,197)		
83	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)
15	54 (204)	112.5 (2,858) x 38.0 (965) x 62.5 (1,588)		
36	132 (500)	112.5 (2,858) x 38.0 (965) x 74.5 (1,892)		
52	190 (719)	112.5 (2,858) x 38.0 (965) x 75.5 (1,917)		
58	211 (799)	112.5 (2,858) x 38.0 (965) x 86.5 (2,197)		
83	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)
15	54 (204)	94.8 (2,408) x 38.0 (965) x 74.9 (1,903)		
36	132 (500)	94.8 (2,408) x 38.0 (965) x 86.9 (2,207)		
52	190 (719)	106.0 (2,692) x 38.0 (965) x 87.9 (2,232)		
58	211 (799)	94.8 (2,408) x 38.0 (965) x 98.9 (2,512)		
83	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.