

SD020NA | 2.2 L | 20 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

Standby Power Rating

20 kW, 25 kVA, 60 Hz



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,
UL 142



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

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
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant

FUEL SYSTEM

- Fuel Lockoff Solenoid
- Primary Fuel Filter

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
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Direct Excitation
- Sealed Bearing
- Amortisseur Winding (3-Phase Only)
- Full Load Capacity Alternator

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- Enclosed Silencer

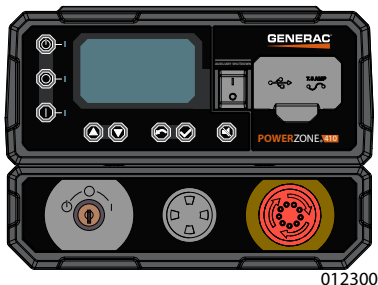
ENCLOSURE

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- Gasketed Doors
- Twist-Lock Handle
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Up to 200 MPH Wind Load Rating (Contact Factory for Details)

FUEL TANKS (Size On Last Page)

- UL 142/ULC S601
- Double Wall
- Normal and Emergency Vents
- Factory Pressure Tested
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Non-Corroding 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 Heater
- Fluid Containment Pan
- Engine Coolant Heater
- Coolant Heater Isolation Ball Valves

FUEL SYSTEM

- NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

GENERATOR SET

- Extended Factory Testing
- Pad Vibration Isolators

ENCLOSURE

- Level 0 Sound Attenuated Enclosure
- Level 1 Sound Attenuated Enclosure
- Level 2 Sound Attenuated Enclosure
- Steel Enclosure
- Aluminum Enclosure
- AC/DC Enclosure Lighting Kit
- Door Open Alarm Horn

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
- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- 100 dB Alarm Horn
- Ground Fault Annunciation
- 120V GFCI Dual Outlets
- 10A Engine Run Relay

FUEL TANKS (Size On Last Page)

- Overfill Protection Valve
- Spill Box Return Hose
- 2.5 Gallon Spill Box
- Tank Risers
- 90% Fuel Level Switch and Alarm
- 12' Vent System
- Fire Rated Stainless Steel Fuel Hose

ENGINEERED OPTIONS

GENERATOR SET

- Special Testing

FUEL TANKS

- UL2085 Tank
- Stainless Steel Tanks
- Special Fuel Tanks

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Perkins
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	4
Type	In-Line
Displacement - in ³ (L)	135 (2.22)
Bore - in (mm)	3.3 (84)
Stroke - in (mm)	3.9 (100)
Compression Ratio	23:3:1
Intake Air Method	Naturally Aspirated
Cylinder Head	Cast Iron
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±1.0%

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	Pressurized Closed
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed - RPM	2,250
Fan Diameter - in (mm)	15.5 (390)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (Microns)	5
Fuel Inject Pump	Distribution Injection Pump
Fuel Pump Type	Cassette
Injector Type	Indirect, Pintle Nozzle
Fuel Supply Line - in (mm)	0.31 (7.94) ID
Fuel Return Line - in (mm)	0.31 (7.94) ID

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	A0020044N21
Poles	4
Field type	Revolving
Insulation Class - Rotor	F
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (Three-Phase Only)
Telephone Interference Factor (TIF)	<50

Standard Excitation	Direct Excitation
Bearings	Single Sealed
Coupling	Direct via Flexible Disc
Load Capacity-Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All

OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/240 VAC @1.0pf	20 kW, 20 kVA	Amps: 83
Three-Phase 120/208 VAC @0.8pf	20 kW, 25 kVA	Amps: 70
Three-Phase 120/240 VAC @0.8pf	20 kW, 25 kVA	Amps: 69

MOTOR STARTING CAPABILITIES (SKVA)

skVA vs. Voltage Dip					
120/240 VAC 1Ø	30%	120/208 VAC 3Ø	30%	120/240 VAC 3Ø	30%
A0020044N21	32	G0020064N21	27	J0020064N21	27

FUEL CONSUMPTION RATES*

Fuel Pump Lift- ft (m)	Diesel - gph (Lph)	
	Percent Load	Standby
3 (1)	25%	0.7 (2.7)
Total Fuel Pump Flow (Combustion + Return) - gph (Lph)	50%	1.1 (4.1)
	75%	1.5 (5.5)
	100%	1.8 (6.9)
16.6 (63)		

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

COOLING

		Standby
Air Flow (Fan Air Flow Across Radiator)	cfm (m³/min)	1,734 (49.1)
Coolant Flow	gpm (Lpm)	15.3 (57.8)
Coolant System Capacity	gal (L)	2.0 (7.6)
Heat Rejection to Coolant	BTU/hr (kW)	76,090 (22.3)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Additional Radiator Backpressure	in H ₂ O (kPa)	60.3 (15.0)

COMBUSTION AIR REQUIREMENTS

	Standby/Demand Response
Flow at Rated Power cfm — (m³/min)	64.4 (1.8)

ENGINE

		Standby
Rated Engine Speed	rpm	1,800
Horsepower at Rated kW**	hp	32.4
Piston Speed	ft/min (m/min)	1,182 (360)
BMEP	psi (kPa)	106 (727)

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

EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m³/min)	168.2 (4.8)
Max. Back Pressure - (Post Silencer)	inHg (kPa)	1.5 (5.0)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	959 (515)

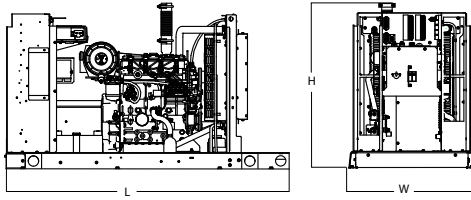
Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.

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

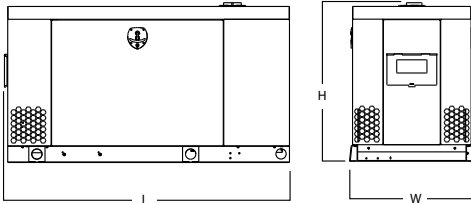
Prime - See Bulletin 0187510SSB

DIMENSIONS AND WEIGHTS*



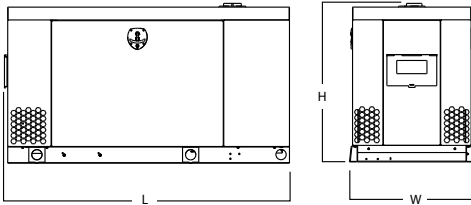
OPEN SET

Run Time Hours**	Usable Capacity Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	—	68.5 (1,740) x 30.6 (777) x 37.6 (955)	963 (437)
30.5	55 (208)	84.0 (2,134) x 30.6 (777) x 37.6 (955)	1,405 (637)
61	110 (416)	84.0 (2,134) x 30.6 (777) x 37.6 (955)	1,606 (728)



LEVEL 0 SOUND ATTENUATED ENCLOSURE

Run Time Hours**	Usable Capacity Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	—	69.0 (1,740) x 30.5 (776) x 38.0 (963)	1,150 (522)
30.5	55 (208)	84.0 (2,134) x 30.5 (776) x 56.0 (1,422)	1,592 (722)
61	110 (416)	84.0 (2,134) x 30.5 (776) x 74.0 (1,880)	1,793 (813)



LEVEL 1 SOUND ATTENUATED ENCLOSURE

Run Time Hours**	Usable Capacity Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	—	69.0 (1,740) x 30.5 (776) x 38.0 (963)	1,150 (522)
30.5	55 (208)	84.0 (2,134) x 30.5 (776) x 56.0 (1,422)	1,592 (722)
61	110 (416)	84.0 (2,134) x 30.5 (776) x 74.0 (1,880)	1,793 (813)

LEVEL 2 SOUND ATTENUATED ENCLOSURE

Run Time Hours**	Usable Capacity Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	—	69.0 (1,740) x 30.5 (776) x 38.0 (963)	1,150 (522)
30.5	55 (208)	84.0 (2,134) x 30.5 (776) x 56.0 (1,422)	1,592 (722)
61	110 (416)	84.0 (2,134) x 30.5 (776) x 74.0 (1,880)	1,793 (813)

*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.