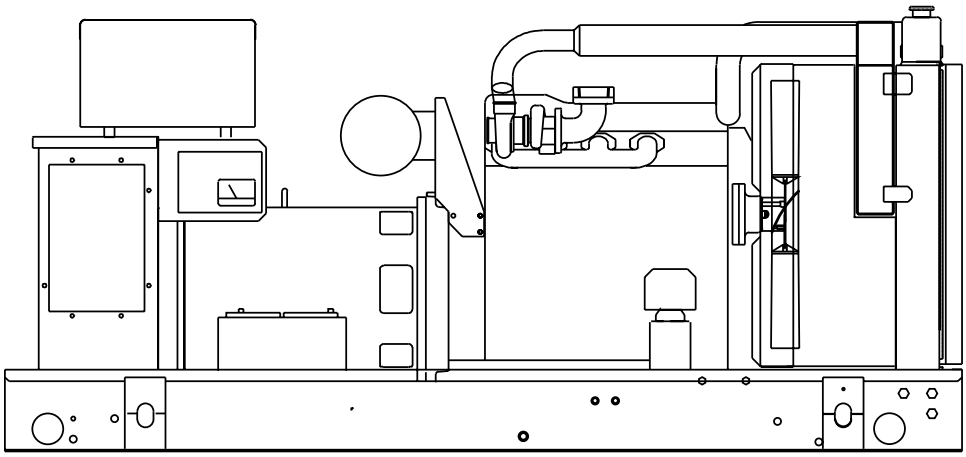
SD080

Liquid Cooled Diesel Engine Generator Sets

Standby Power Rating
80KW 60 Hz / 80KVA 50 Hz

Prime Power Rating
64KW 60 Hz / 64KVA 50 Hz



Power Matched
GENERAC 4.8DTA ENGINE
Naturally Aspirated

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.

- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
  - ✓ UL COMPLIANCE AVAILABLE

- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.

- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own a GENERAC POWER SYSTEM.

- **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.

- **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.

- **GENERAC TRANSFER SWITCHES, SWITCHGEAR AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, switchgear and controls for total system compatibility.

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APPLICATION & ENGINEERING DATA

GENERATOR SPECIFICATIONS

TYPE ..... Four-pole, revolving field
ROTOR INSULATION ..... Class H
STATOR INSULATION ..... Class H
TOTAL HARMONIC DISTORTION ..... <3%
TELEPHONE INTERFERENCE FACTOR (TIF) ..... <50
ALTERNATOR ..... Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) 1
COUPLING ..... Direct, Flexible Disc
LOAD CAPACITY (STANDBY) 100%
LOAD CAPACITY (PRIME) 110%

NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN6271 standards.

EXCITATION SYSTEM

❒ BRUSHLESS ..... Magnetically coupled DC current ✓
Eight-pole exciter w/ battery-driven field boost ✓
Mounted outboard of main bearing ✓
❒ PERMANENT MAGNET EXCITER ..... Eighteen pole exciter ✓
Magnetically coupled DC current ✓
Mounted outboard of main bearing ✓
REGULATION ..... Solid-state ✓
±1% regulation ✓

GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets the temperature rise standards for class "F" insulation as defined by NEMA MG1-32.6, while the insulation system meets the requirements for the higher class "H" rating.
- All prototype models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- All prototype models are tested for motor starting ability by measuring the instantaneous voltage dip with a waveform data acquisition system.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-32.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

ENGINE SPECIFICATIONS

MAKE ..... GENERAC/DEUTZ
MODEL ..... BF4M1013EC Deutz
CYLINDERS 4
DISPLACEMENT ..... 4.8 Liter (293 cu.in.)
BORE ..... 108 mm (4.25 in.)
STROKE ..... 130 mm (5.12 in.)
COMPRESSION RATIO 18.9:1
INTAKE AIR ..... Turbocharged/Aftercooled
NUMBER OF MAIN BEARINGS 5
CONNECTING RODS ..... 4-Drop Forged Steel
CYLINDER HEAD ..... Cast Iron
PISTONS ..... 4- Aluminum Alloy
CRANKSHAFT ..... Die Forged, Induction Hardened Steel

VALVE TRAIN

LIFTER TYPE ..... Solid
INTAKE VALVE MATERIAL ..... Heat Resistant Steel
EXHAUST VALVE MATERIAL ..... Heat Resistant Steel
HARDENED VALVE SEATS ..... Replaceable

ENGINE GOVERNOR

❒ ELECTRONIC ..... Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ... 0.5%
STEADY STATE REGULATION 0.25%

LUBRICATION SYSTEM

TYPE OF OIL PUMP ..... Gear
OIL FILTER ..... Full flow, Cartridge
CRANKCASE CAPACITY ..... 11 Liters (11.7 qts.)

COOLING SYSTEM

TYPE OF SYSTEM ..... Pressurized, Closed Recovery
WATER PUMP ..... Pre-Lubed, Self-Sealing
TYPE OF FAN ..... Pusher
NUMBER OF FAN BLADES 6
DIAMETER OF FAN ..... 560 mm (22 in.)
COOLANT HEATER ..... 120V, 1800 W

FUEL SYSTEM

FUEL ..... #2D Fuel (Min Cetane #40)
(Fuel should conform to ASTM Spec.)
FUEL FILTER ..... 5 Micron
FUEL INJECTION PUMP ..... Bosch, Unit type cam driven
FUEL PUMP ..... Mechanical
INJECTORS ..... Multi-Hole, Nozzle Type
ENGINE TYPE ..... Direct Injection
FUEL LINE (Supply) ..... 6.35 mm (0.25 in.)
FUEL RETURN LINE ..... 6.35 mm (0.25 in.)

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR ..... 20 Amps at 12 V
STARTER MOTOR ..... 12 V
RECOMMENDED BATTERY ..... 12 Volt, 90 A.H., 27F
GROUND POLARITY ..... Negative

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

GENERAC®
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SD080

OPERATING DATA

	STANDBY		PRIME	
	SD080		SD080	
GENERATOR OUTPUT VOLTAGE/KW-60Hz		Rated AMP		Rated AMP
120/240V, 1-phase, 1.0 pf	80	333	64	267
120/208V, 3-phase, 0.8 pf	80	278	64	222
120/240V, 3-phase, 0.8 pf	80	241	64	192
277/480V, 3-phase, 0.8 pf	80	120	64	96
600V, 3-phase, 0.8 pf	0	96	64	77
NOTE: Consult your Generac dealer for additional voltages.				
GENERATOR OUTPUT VOLTAGE/KVA-50Hz		Rated AMP		Rated AMP
110/220V, 1-phase, 1.0 pf	64	291	51.2	233
115/200V, 3-phase, 0.8 pf	80	231	64	185
100/200V, 3-phase, 0.8 pf	80	231	64	185
231/400V, 3-phase, 0.8 pf	80	115	64	92
480V, 3-phase, 0.8 pf	80	96	64	77
NOTE: Consult your Generac dealer for additional voltage				
MOTOR STARTING KVA				
Maximum at 35% instantaneous voltage dip	208/240/416V	480V	208/240/416V	480V
with standard alternator; 50/60 Hz	134/164	158/193	134/164	158/193
with optional alternator; 50/60 Hz	230/281	271/331	230/281	271/331

FUEL								
Fuel consumption—60 Hz	Load	25%	50%	75%	100%	25%	50%	75%	100%
	gal./hr.	1.8	3.2	4.5	5.9	1.4	2.6	3.6	4.7
	liters/hr.	6.7	12.3	17.2	22.3	5.4	9.8	13.8	17.9
Fuel consumption—50 Hz	gal./hr.	1.5	2.8	3.9	5.1	1.2	2.2	3.1	4.1
	liters/hr.	5.8	10.6	14.8	19.2	4.6	8.5	11.8	15.4
Fuel pump lift		40"				40"			

COOLING			
Coolant capacity	System - US gal. (lit.)	4.5 (17.0)	4.5 (17.0)
	Engine - US gal. (lit.)	2.75 (10.4)	2.75 (10.4)
Coolant flow/min.	60 Hz - US gal. (lit.)	19 (72)	19 (72)
	50 Hz - US gal. (lit.)	16 (60)	16 (60)
Heat rejection to coolant	60 Hz full load BTU/hr.	229,688	189,493
Heat rejection to coolant	50 Hz full load BTU/hr.	191,330	157,848
Inlet air	60 Hz - cfm (m^3/min.)	7500 (212.4)	7500 (212.4)
	50 Hz - cfm (m^3/min.)	6225 (176.3)	6225 (176.3)
Max. air temperature to radiator	°C (°F)	50 (122)	50 (122)
Max. ambient temperature	°C (°F)	54 (130)	54 (130)
COMBUSTION AIR REQUIREMENTS			
Flow at rated power	60 Hz - cfm (m^3/min.)	295 (8.4)	236 (6.7)
	50 Hz - cfm (m^3/min.)	246 (7.0)	197 (5.6)
EXHAUST			
Exhaust flow at rated output	60 Hz - cfm (m^3/min.)	830 (23.5)	706 (20.0)
	50 Hz - cfm (m^3/min.)	692 (19.6)	588 (16.7)
Max recommended back pressure	Hg	3.0	3.0
Exhaust temperature 60 Hz (full load)	°F (°C)	1060 (571)	954 (512)
Exhaust outlet size		2.5" O.D. Turbo	3.0" O.D. Muffler
ENGINE			
Rated RPM	60 Hz / 50 Hz	1800 / 1500	1800 / 1500
HP at rated KW	60 Hz / 50 Hz	125 / 104	100 / 83
Piston speed	60 Hz - ft./min. (m/min.)	1536 (468)	1536 (468)
	50 Hz - m/min.	390	390
BMEP	60 Hz / 50 Hz - psi	189 / 187	151 / 150
DERATION FACTORS			
Temperature			
5% for every 10°C above - °C		25	25
2.77% for every 10°F above - °F		77	77
Altitude			
1.1% for every 100 m above - m		1524	1524
3.5% for every 1000 ft. above - ft.		5000	5000

STANDARD ENGINE & SAFETY FEATURES

SD080

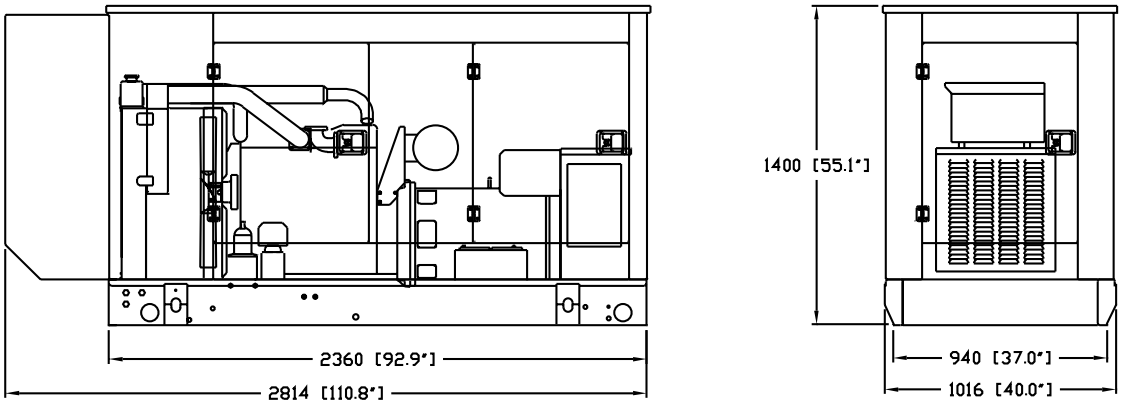
- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Coolant Heater
- Secondary Fuel Filter
- Fuel Lockoff Solenoid
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 12 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Air Duct Adaptor

OPTIONS

- **OPTIONAL COOLING SYSTEM ACCESSORIES**
  - ❍ 208/240V Coolant Heater
- **OPTIONAL FUEL ACCESSORIES**
  - ❍ Flexible Fuel Lines
  - ❍ UL Listed Fuel Tanks
  - ❍ Base Tank Low Fuel Alarm
  - ❍ Primary Fuel Filters
- **OPTIONAL EXHAUST ACCESSORIES**
  - ❍ Critical Exhaust Silencer
- **OPTIONAL ELECTRICAL ACCESSORIES**
  - ❍ 2A Battery Charger
  - ❍ 10A Dual Rate Battery Charger
  - ❍ Battery, 12 Volt, 135 A.H.
- **OPTIONAL ALTERNATOR ACCESSORIES**
  - ❍ Alternator Upsizing
  - ❍ Alternator Strip Heater
  - ❍ Alternator Tropicalization
  - ❍ Voltage Changeover Switch
  - ❍ Main Line Circuit Breaker
- **CONTROL CONSOLE OPTIONS**
  - ❍ Analog Control "C" Panel (Bulletin 0151160SBY)
  - ❍ Analog/Digital Control "E" Panel (Bulletin 0161310SBY)
  - ❍ Digital Control "D" Panel (Bulletin 0157210SBY)
- **ADDITIONAL OPTIONAL EQUIPMENT**
  - ❍ Automatic Transfer Switch
  - ❍ Isochronous Governor
  - ❍ 3 Light Remote Annunciator
  - ❍ 5 Light Remote Annunciator
  - ❍ 20 Light Remote Annunciator
  - ❍ Remote Relay Panels
  - ❍ Unit Vibration Isolators
  - ❍ Oil Make-Up System
  - ❍ Oil Heater
  - ❍ 5 Year Warranties
  - ❍ Export Boxing
  - ❍ GenLink® Communications Software
- **OPTIONAL ENCLOSURE**
  - ❍ Weather Protective
  - ❍ Sound Attenuated
  - ❍ Aluminum and Stainless Steel
  - ❍ Enclosed Muffler

Distributed by:

Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Generac dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



mm [in]

WEIGHT: 2900 lbs.

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