

SD180 SD200

Liquid Cooled Diesel Engine Generator Sets

Standby Power Rating

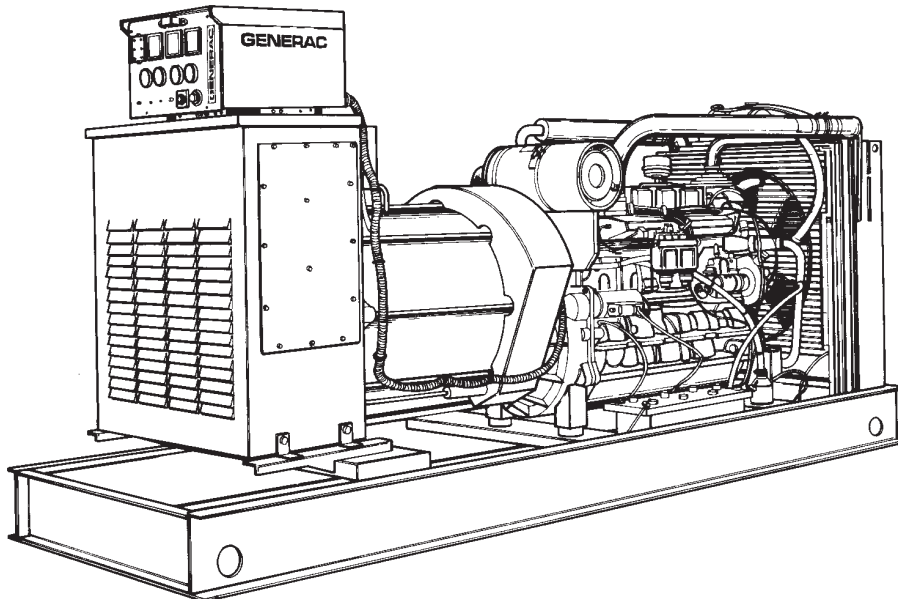
180KW 60Hz/180KVA 50 Hz

200KW 60 Hz/200KVA 50 Hz

Prime Power Rating

147KW 60 Hz/147KVA 50 Hz

163KW 60 Hz/163KVA 50 Hz



Power Matched

GENERAC 7.5DMTA ENGINE

Turbo-Charged, Aftercooled

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 MG1-22 EVALUATION
 - ✓ MOTOR STARTING ABILITY
 - ✓ SHORT CIRCUIT TESTING
 - ✓ UL 2200 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 an 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 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, and controls for total system compatibility.

GENERAC®

APPLICATION & ENGINEERING DATA

SD180/SD200

GENERATOR SPECIFICATIONS

TYPE	Four-pole, revolving field
ROTOR INSULATION	Class H
STATOR INSULATION	Class H
TOTAL HARMONIC DISTORTION	<3.0%
TELEPHONE INFLUENCE FACTOR (TIF)	<50
ALTERNATOR	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED)	2
COUPLING	Flexible Disc
LOAD CAPACITY (STANDBY)	100%

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

PERMANENT MAGNET PILOT 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 temperature rise standards for class "F" insulation as defined by NEMA MG1-22.40 and NEMA MG1-1.65.
- Rotor and stator and other insulation is impregnated with class "H" varnish.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit tested for motor-starting ability by measuring instantaneous voltage dip with an oscillograph.
- 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 MG1-22.
- 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
MODEL.....	7.5DTA
CYLINDERS.....	6 in-line
DISPLACEMENT.....	7.5 Liters (457 cu. in.)
BORE	118 mm (4.64 in.)
STROKE.....	115 mm (4.52 in.)
COMPRESSION RATIO	16:1
INTAKE AIR	Turbocharged, Aftercooled
NUMBER OF MAIN BEARINGS	7
CONNECTING RODS	6-Carbon Steel
CYLINDER HEAD	Cast Iron with Overhead Valve
PISTONS.....	6-Heat Resistant Aluminum Alloy
CRANKSHAFT	Case Hardened, Die Forged, Carbon Steel

VALVE TRAIN

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

ENGINE GOVERNOR

<input type="checkbox"/> ELECTRONIC	Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD	0.5%
STEADY STATE REGULATION.....	±0.25%

LUBRICATION SYSTEM

TYPE OF OIL PUMP	Forced Feed Lubrication w/ Oil Pump
OIL FILTER.....	Full Flow, Cartridge
CRANKCASE CAPACITY.....	22.7 Liters (6.0 U.S. gallons)

COOLING SYSTEM

TYPE OF SYSTEM	Pressurized, closed recovery
WATER PUMP	Pre-lubed, Self-Sealing
TYPE OF FAN	Pusher
NUMBER OF FAN BLADES.....	7
DIAMETER OF FAN	650 mm (26.0 in.)
COOLANT HEATER	120V, 1800 W

FUEL SYSTEM

FUEL	#2D Fuel (Min Cetane #40) (Fuel should conform to ASTM Spec.)
FUEL FILTER	10 Micron
FUEL INJECTION PUMP	ZEXEL
FUEL PUMP	Mechanical
INJECTORS	Multi-hole, nozzle type
ENGINE TYPE.....	Direct injection
FUEL LINE (Supply).....	9.53 mm (0.375 in.)
FUEL RETURN LINE	9.53 mm (0.375 in.)

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR.....	35 Amps at 24 V
STARTER MOTOR	24 V
RECOMMENDED BATTERY.....	2-12V, 135 AH, 4D
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).

SD180/SD200

OPERATING DATA

	STANDBY				PRIME				
	SD180		SD200		SD180		SD200		
GENERATOR OUTPUT VOLTAGE/KW-60Hz	kW	Rated AMP	kW	Rated AMP	kW	Rated AMP	kW	Rated AMP	
120/240V, 1-phase, 1.0 pf	180	750	200	833	147	613	163	679	
120/208V, 3-phase, 0.8 pf	180	625	200	694	147	510	163	565	
120/240V, 3-phase, 0.8 pf	180	541	200	601	147	442	163	490	
277/480V, 3-phase, 0.8 pf	180	271	200	301	147	221	163	245	
600V, 3-phase, 0.8 pf	180	217	200	241	147	177	163	196	
	NOTE: Consult your Generac dealer for additional voltages.								
GENERATOR OUTPUT VOLTAGE/KVA-50Hz	kVA	Rated AMP	kVA	Rated AMP	kVA	Rated AMP	kVA	Rated AMP	
110/220V, 1-phase, 1.0 pf	144	655	160	727	115	522	128	582	
115/200V, 3-phase, 0.8 pf	180	520	200	577	147	424	163	470	
100/200V, 3-phase, 0.8 pf	180	520	200	577	147	424	163	470	
231/400V, 3-phase, 0.8 pf	180	260	200	289	147	212	163	235	
480V, 3-phase, 0.8 pf	180	217	200	241	147	177	163	196	
MOTOR STARTING									
Maximum KVA with 35% instantaneous voltage dip	231/240V		400/480V		231/240V		400/480V		
with standard alternator; 50/60 Hz	400/500 KVA	552/690 KVA	400/500 KVA	552/690 KVA	400/500 KVA	552/690 KVA	400/500 KVA	552/690 KVA	
with optional alternator; 50/60 Hz	768/960 KVA	1072/1340 KVA	768/960 KVA	1072/1340 KVA	768/960 KVA	1072/1340 KVA	768/960 KVA	1072/1340 KVA	
FUEL									
Fuel consumption—60 Hz	Load gal./hr.	25%	50%	75%	100%	25%	50%	75%	100%
	liters/hr.	3.5	6.6	9.5	12.6	4.1	7.6	11.0	14.3
Fuel consumption—50 Hz	gal./hr.	2.8	5.3	7.6	10.1	3.3	6.1	8.8	11.4
	liters/hr.	10.6	20.0	28.8	38.2	12.4	23.0	33.3	43.3
COOLING									
Coolant capacity	System - lit. (US gal.)	42.4 (11.2)		42.4 (11.2)		42.4 (11.2)		42.4 (11.2)	
	Engine - lit. (US gal.)	13.0 (3.4)		13.0 (3.4)		13.0 (3.4)		13.0 (3.4)	
	Radiator - lit. (US gal.)	29.4 (7.8)		29.4 (7.8)		29.4 (7.8)		29.4 (7.8)	
Coolant flow/min.	60 Hz - lit. (US gal.)	272.6 (72.0)		272.6 (72.0)		272.6 (72.0)		272.6 (72.0)	
	50 Hz - lit. (US gal.)	227.2 (60.0)		227.2 (60.0)		227.2 (60.0)		227.2 (60.0)	
Heat rejection to coolant	BTU/hr.	510,000		574,000		401,000		459,200	
Inlet air	60 Hz - m ³ /min. (cfm)	425.0 (15,000)		425.0 (15,000)		425.0 (15,000)		425.0 (15,000)	
	50 Hz - m ³ /min. (cfm)	354.0 (12,500)		354.0 (12,500)		354.0 (12,500)		354.0 (12,500)	
Max. external pressure drop on radiator	in. H ₂ O	0.5		0.5		0.5		0.5	
COMBUSTION AIR REQUIREMENTS									
Flow at rated power	60 Hz - m ³ /min. (cfm)	17.1 (604.1)		18.9 (668.0)		14.0 (483.3)		15.3 (539.0)	
	50 Hz - m ³ /min. (cfm)	13.5 (478.3)		15.0 (529.5)		11.0 (382.6)		12.1 (426.15)	
EXHAUST									
Exhaust flow at rated output	60 Hz - m ³ /min. (cfm)	52.9 (1867)		58.5 (2065)		41.0 (1449)		45.8 (1616)	
	50 Hz - m ³ /min. (cfm)	41.9 (1479)		46.4 (1637)		32.5 (1147)		36.2 (1278)	
Max recommended back pressure	Kpa (Hg)	5.1 (1.5)		5.1 (1.5)		5.1 (1.5)		5.1 (1.5)	
Exhaust temp at rated output	°C (°F)	649 (1200)		649 (1200)		621 (1150)		621 (1150)	
Exhaust outlet size	mm (in)	127 (5.0)		127 (5.0)		127 (5.0)		127 (5.0)	
ENGINE									
Rated RPM	60 Hz	1800		1800		1800		1800	
	50 Hz	1500		1500		1500		1500	
HP at rated KW	60 Hz	267		295		215		238	
	50 Hz	211		234		170		188	
Piston speed (mean)	60 Hz - m/sec. (ft./min.)	6.90 (1358)		6.90 (1358)		6.90 (1358)		6.90 (1358)	
	50 Hz - m/sec. (ft./min.)	5.75 (1132)		5.75 (1132)		5.75 (1132)		5.75 (1132)	
BMEP	60 Hz - psi	255		282		206		227	
	50 Hz - psi	242		268		195		216	
DERATION FACTORS									
Temperature									
	3.5% for every 10°C above - °C	40		25		40		25	
	2.77% for every 10°F above - °F	104		77		104		77	
Altitude									
	1.1% for every 100 m above - m	1066		183		1066		183	
	3.5% for every 1000 ft. above - ft.	3500		600		3500		600	

- 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
- 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
- 24 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Coolant Heater
- Isochronous Governor

OPTIONS

OPTIONAL COOLING SYSTEM ACCESSORIES

- Radiator Duct Adapter
- Coolant Heater 208/240VAC

OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines
- UL Listed Fuel Tanks
- Base Tank Fuel Alarms
- Primary Fuel Filter
- Primary Fuel Filter with Heater

OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer

OPTIONAL ELECTRICAL ACCESSORIES

- Battery, 12 Volt, 135 A.H., 4D (2 req'd)
- Battery, 12 Volt, 225 A.H., 8D (2 req'd)
- 2A Battery Charger
- 10A Dual Rate Battery Charger
- Battery Heater

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)

ADDITIONAL OPTIONAL EQUIPMENT

- Automatic Transfer Switch
- 21 Light Remote Annunciator
- Remote Relay Panels
- Unit Vibration Isolators
- Oil Make-Up System
- Oil Heater
- 5 Year Warranties
- Export Boxing
- GenLink® Communications Software

OPTIONAL ENCLOSURES

- 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.

