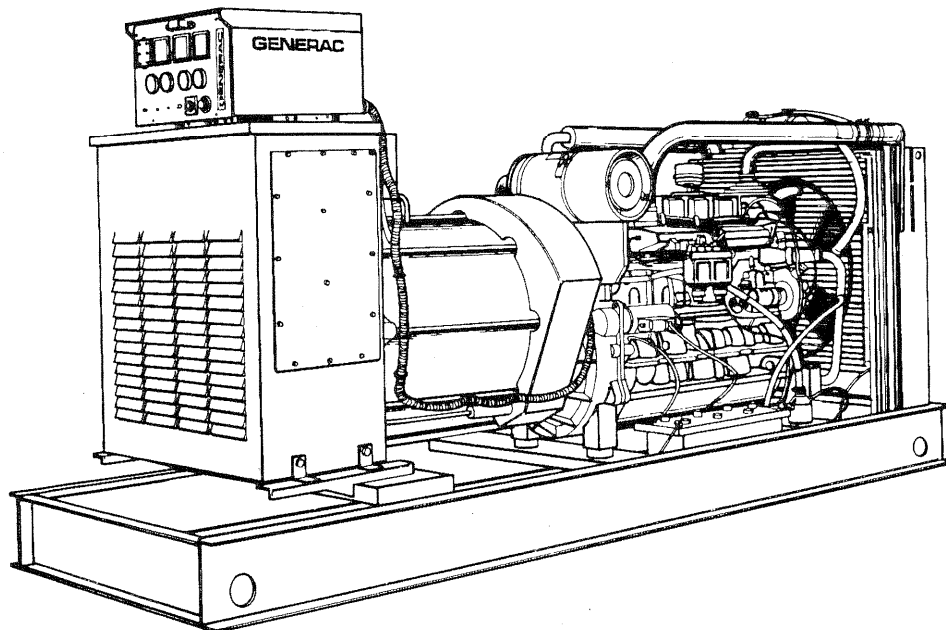


SD180

Liquid Cooled Diesel Engine Generator Sets

Continuous Standby Power Rating
180KW 60 Hz / 180KVA 50 Hz

Prime Power Rating
140KW 60 Hz / 140KVA 50 Hz



Power Matched
GENERAC 7.5DTA ENGINE
Turbocharged, Aftercooled, Gear Driven

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
- **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®

POWER SYSTEMS

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)	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 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 MG1-22.4 and NEMA MG1-1.65.
- Rotor and stator and other insulation is impregnated twice 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.

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).

ENGINE SPECIFICATIONS

MAKE	GENERAC
MODEL	7.5DTA
CYLINDERS	6 in-line
DISPLACEMENT	7.5 Liter (457 cu.in.)
BORE	112 mm (4.41 in.)
STROKE	127 mm (5.00 in.)
COMPRESSION RATIO	17.9:1
INTAKE AIR	Turbocharged, Aftercooled
NUMBER OF MAIN BEARINGS	7
CONNECTING RODS	6-Carbon Steel
CYLINDER HEAD	Cast Iron 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"/> MECHANICAL (Gear Driven)	Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ...	5.0%
STEADY STATE REGULATION	±0.33%
<input type="checkbox"/> ELECTRONIC	Optional
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 US gal.)

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 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	Stanadyne
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	30 Amps at 12 V
STARTER MOTOR	12 V
RECOMMENDED BATTERY	12 V, 135 A.H., 4D
GROUND POLARITY	Negative

SD180

OPERATING DATA

	STANDBY		PRIME	
	SD180		SD180	
GENERATOR OUTPUT VOLTAGE/KW-60Hz		<u>Rated AMP</u>		<u>Rated AMP</u>
120/240V, 1-phase, 1.0 pf	133	554	120	500
120/208V, 3-phase, 0.8 pf	180	625	140	486
120/240V, 3-phase, 0.8 pf	180	542	140	421
277/480V, 3-phase, 0.8 pf	180	271	140	211
600V, 3-phase, 0.8 pf	180	217	140	169
NOTE: Consult your Generac dealer for additional voltages.				
GENERATOR OUTPUT VOLTAGE/KVA-50Hz		<u>Rated AMP</u>		<u>Rated AMP</u>
110/220V, 1-phase, 1.0 pf	106	482	96	436
115/200V, 3-phase, 0.8 pf	180	520	140	405
100/200V, 3-phase, 0.8 pf	180	520	140	405
231/400V, 3-phase, 0.8 pf	180	260	140	202
480V, 3-phase, 0.8 pf	180	217	140	169
NOTE: Consult your Generac dealer for additional voltage				
MOTOR STARTING				
Maximum at 35% instantaneous voltage dip with standard alternator; 50/60 Hz	<u>231/240V</u>	<u>400/480V</u>	<u>231/240V</u>	<u>400/480V</u>
with optional alternator; 50/60 Hz	417/500 KVA 575/690 KVA	654/785 KVA 910/1092 KVA	417/500 KVA 575/690 KVA	654/785 KVA 910/1092 KVA
FUEL				
Fuel consumption—60 Hz	<u>25%</u> <u>50%</u> <u>75%</u> <u>100%</u>		<u>25%</u> <u>50%</u> <u>75%</u> <u>100%</u>	
Load gal./hr.	4.0 7.99 11.9 15.79		3.2 6.3 9.3 12.3	
liters/hr.	15.1 30.2 44.2 59.7		12.1 23.8 35.2 46.5	
Fuel consumption—50 Hz	3.31 6.43 9.52 12.57		2.6 5.0 7.5 9.9	
gal./hr.	12.5 24.3 35.9 47.5		9.8 19 28.4 37.5	
liters/hr.	40"		40"	
Fuel pump lift				
COOLING				
Coolant capacity System - lit. (US gal.)	17.5 (4.6)		17.5 (4.6)	
Engine - lit. (US gal.)	8.5 (2.24)		8.5 (2.24)	
Radiator - lit. (US gal.)	9 (2.4)		9 (2.4)	
Coolant flow/min. 60 Hz - lit. (US gal.)	229.2 (61.8)		229.2 (61.8)	
50 Hz - lit. (US gal.)	229.2 (61.8)		229.2 (61.8)	
Heat rejection to coolant BTU/hr.	729,000		729,000	
Inlet air 60 Hz - m³/min. (cfm)	208 (9900)		208 (9900)	
50 Hz - m³/min. (cfm)	173 (8246)		173 (8246)	
Max. inlet air temperature °F	110°F		110°F	
COMBUSTION AIR REQUIREMENTS				
Flow at rated power 60 Hz - m³/min. (cfm)	14.6 (514)		14.6 (514)	
50 Hz - m³/min. (cfm)	14.6 (514)		14.6 (514)	
EXHAUST				
Exhaust flow at rated output 60 Hz - m³/min. (cfm)	24.6 (866)		24.6 (866)	
50 Hz - m³/min. (cfm)	20.5 (721)		20.5 (721)	
Maximum recommended back pressure Kpa(Hg)	5 (1.5 ")		5 (1.5 ")	
Exhaust temp at rated output °C (°F)	554 (1030)		554 (1030)	
Exhaust outlet size	3"		3"	
ENGINE				
Rated RPM 60 Hz	2300		2300	
50 Hz	2300		2300	
HP at rated KW 60 Hz	288		224	
50 Hz	230		180	
Piston speed 60 Hz - m/min. (ft./min.)	457 (1500)		457 (1500)	
50 Hz - m/min. (ft./min.)	381 (1916)		381 (1916)	
BMEP 60 Hz	217		169	
50 Hz	173		135	
DERATION FACTORS				
Temperature				
5% for every 10°C above - °C	43		43	
2.77% for every 10°F above - °F	110		110	
Altitude				
1.1% for every 100 m above - m	1067		1067	
3.5% for every 1000 ft. above - ft.	3500		3500	

STANDARD ENGINE & SAFETY FEATURES

SD180

- 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
- 12 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console

OPTIONS

■ OPTIONAL COOLING SYSTEM ACCESSORIES

- Radiator Duct Adapter
- 208/240V Coolant Heater

■ OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines
- Single Wall Base Tank _____
- Double Wall Base Tank w/alarm _____
- Base Tank Low Fuel Alarm
- Primary Fuel Filter
- Primary Fuel Filter with Heater

■ OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer

■ OPTIONAL ELECTRICAL ACCESSORIES

- Battery, 12 Volt, 135 A.H.
- 2A Battery Charger
- 10A Dual Rate Battery Charger

■ OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Upsizing _____
- Alternator Strip Heater
- Alternator Tropicalization
- Voltage Changeover (Board/Switch)
- Main Line Circuit Breaker _____

■ CONTROL CONSOLE OPTIONS

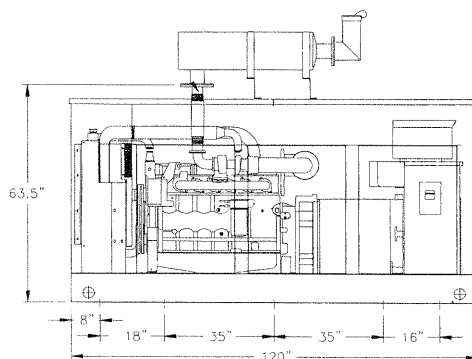
- See control console specification sheet

■ ADDITIONAL OPTIONAL EQUIPMENT

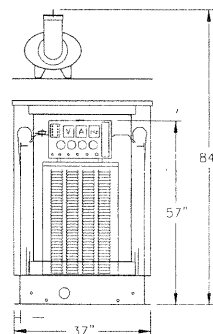
- Automatic Transfer Switch
- Weather Protective Enclosure (Locking Type)
- Sound Attenuating Outdoor Enclosure
- Isochronous Governor
- 3 Light Remote Annunciator
- 5 Light Remote Annunciator
- 20 Light Remote Annunciator
- Road Ready Trailer
- Unit Vibration Isolators (Pad/Spring)
- Oil Make-Up System
- Oil Heater
- 5 Year Warranty (Basic/Extended)
- Export Boxing

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.



LEFT SIDE VIEW



PANEL END VIEW

WEIGHT: 2900 lbs.

GENERAC POWER SYSTEMS, INC. • P.O. BOX 8 • WAUKESHA, WI 53187

262/544-4811 • FAX 262/544-4851