

SD135

SD150

Liquid Cooled Diesel Engine Generator Sets

Standby Power Rating

135KW 60Hz

150KW 60 Hz

Prime Power Rating

120KW 60 Hz

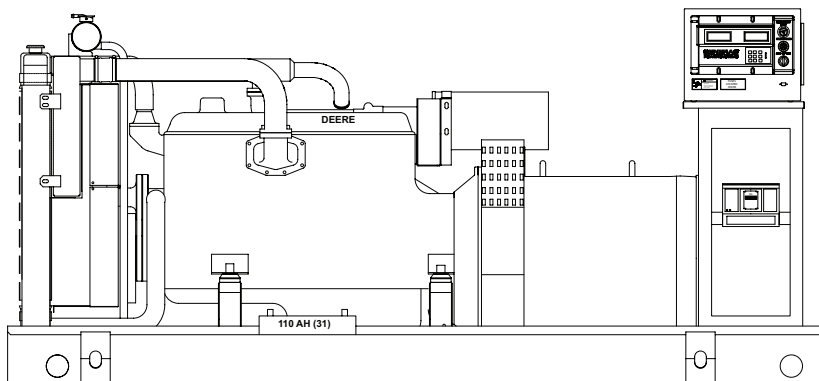
135KW 60 Hz

Power Matched

GENERAC 6.8 DTA ENGINE

Turbo-Charged, Aftercooled

EPA Tier III Compliant



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 2200 COMPLIANCE AVAILABLE

■ **MICROPROCESSOR CONTROLLED VOLTAGE AND FREQUENCY REGULATION.** Digital microprocessor control of engine and generator functions and protective systems integrated

into a single controller for unparalleled performance and reliability. LCD display of all engine and generator functions and remote monitoring via GenLink® software.

- **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 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

SD135/SD150

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. 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.....	H100 Controller Digital ✓
	3 Phase Sensing, ± 1% regulation ✓

GENERATOR FEATURES

- Revolving field heavy duty generator
- Directly connected to the engine
- Operating temperature rise 120 °C above a 40 °C ambient
- Insulation is Class H rated at 150 °C rise
- All prototype models have passed three phase short circuit testing

CONTROL PANEL FEATURES

- TWO FOUR LINE LCD DISPLAYS READ:
 - Voltage (all phases)
 - Power factor
 - kVAR
 - Engine speed
 - Run hours
 - Fault history
 - Coolant temperature
 - Low oil pressure shutdown
 - Overvoltage
 - Low coolant level
 - Not in auto position (flashing light)
 - ATS selection
 - Current (all phases)
 - kW
 - Transfer switch status
 - Low fuel pressure
 - Service reminders
 - Oil pressure
 - Time and date
 - High coolant temperature shutdown
 - Overspeed
 - Low coolant level
 - Exercise speed
- INTERNAL FUNCTIONS:
 - IT function for alternator protection from line to neutral and line to line short circuits
 - Emergency stop
 - Programmable auto crank function
 - 2 wire start for any transfer switch
 - Communicates with the Generac HTS transfer switch
 - Built-in 7 day exerciser
 - Adjustable engine speed at exerciser
 - RS232 port for GenLink® control
 - RS485 port remote communication
 - Canbus addressable
 - Governor controller and voltage regulator are built into the master control board
 - Temperature range -40 °C to 70 °C

ENGINE SPECIFICATIONS

MAKE	DEERE
MODEL.....	See Exhaust Emission Sheet
ENGINE FAMILY.....	First digit is Cert. Yr. (i.e. 7, 8, 9) _JDXL06.8104
CYLINDERS	6 in-line
DISPLACEMENT	6.8 Liters (415 cu. in.)
BORE	106 mm (4.19 in.)
STROKE.....	127 mm (5.0 in.)
COMPRESSION RATIO	17.0:1
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
VALVES PER CYLINDER.....	2

ENGINE GOVERNOR

- ELECTRONIC
- Standard FREQUENCY REGULATION, NO-LOAD TO FULL LOAD... Isochronous 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	45 Amps at 24 V
STARTER MOTOR	24 V
RECOMMENDED BATTERY.....	2-12V, 31
GROUND POLARITY	Negative

SD135/SD150

OPERATING DATA

	STANDBY				PRIME			
	SD135		SD150		SD135		SD150	
GENERATOR OUTPUT VOLTAGE/KW-60Hz	kW	Rated AMP	kW	Rated AMP	kW	Rated AMP	kW	Rated AMP
120/240V, 1-phase, 1.0 pf	135	563	150	625	120	500	135	563
120/208V, 3-phase, 0.8 pf	135	468	150	520	120	416	135	468
120/240V, 3-phase, 0.8 pf	135	406	150	451	120	361	135	406
277/480V, 3-phase, 0.8 pf	135	203	150	226	120	180	135	203
600V, 3-phase, 0.8 pf	135	162	150	180	120	144	135	162
	NOTE: Consult your Generac dealer for additional voltages.							
MOTOR STARTING								
Maximum KVA with 35% instantaneous voltage dip								
with standard alternator; 60 Hz	208/240V	400/480V	208/240V	400/480V	208/240V	400/480V	208/240V	400/480V
with optional alternator; 60 Hz	348	464	348	464	348	464	348	464
	490	653	490	653	490	653	490	653
FUEL								
Fuel consumption—60 Hz								
Load	25%	50%	75%	100%	25%	50%	75%	100%
kW @ %	33.75	67.5	101.25	135	37.5	75	112.5	150
gal./hr.	2.87	5.45	7.95	9.89	3.11	5.89	8.60	10.83
Liters/Hr.	10.85	20.61	30.11	37.43	11.75	22.30	32.55	40.99
	2.29	4.36	6.36	7.91	2.48	4.71	6.88	8.66
	8.68	16.49	24.09	29.94	9.40	17.84	26.04	32.79
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.	265	(70)	265	(70)	265	(70)	265	(70)
60 Hz - lit. (US gal.)	263,000		293,000		211,200		234,000	
Heat rejection to coolant	259	(9,128)	259	(9,128)	259	(9,128)	259	(9,128)
Inlet air								
60 Hz - m ³ /min. (cfm)	60	(140)	60	(140)	60	(140)	60	(140)
Max. operating air temp onto radiator								
*see note	50	(122)	50	(122)	50	(122)	50	(122)
Max. operating ambient temp								
*see note	0.5		0.5		0.5		0.5	
Max. external pressure drop on rad								
COMBUSTION AIR REQUIREMENTS								
Flow at rated power	12.5	(442.0)	14.5	(512.3)	10.0	(353.6)	11.7	(414.8)
60 Hz - m ³ /min. (cfm)								
EXHAUST								
Exhaust flow at rated output	36.8	(1301)	42.7	(1508)	28.6	(1009)	33.5	(1184)
60 Hz - m ³ /min. (cfm)								
Max recommended back pressure	5.1	(1.5)	5.1	(1.5)	5.1	(1.5)	5.1	(1.5)
Kpa (Hg)	460	(860)	476	(890)	435	(815)	446	(835)
Exhaust temp at rated output								
°C (°F)	127	(5.0)	127	(5.0)	127	(5.0)	127	(5.0)
Exhaust outlet size								
mm (in)								
ENGINE								
Rated RPM	1800		1800		1800		1800	
60 Hz	208		229		165		183	
HP (@ rated kW)	7.6	(1500)	7.6	(1500)	7.6	(1500)	7.6	(1500)
Piston speed (mean)								
60 Hz - m/sec. (ft./min.)	249		221		177		200	
BMEP								
60 Hz - psi								
DERATION FACTORS								
Temperature								
2.4% for every 10°C above - °C	40		40		40		40	
4.1% for every 10°F above - °F	104		104		104		104	
Altitude								
0.8% for every 100 m above - m	1525		1066		1525		1066	
2.6% for every 1000 ft. above - ft.	5000		3500		5000		3500	

* Note: Values given are maximum temperatures to which power adjustments can be applied. Consult your Generac Power Systems representative if operating conditions exceed these maximums.

STANDARD ENGINE & SAFETY FEATURES

SD135/SD150

- 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
- Radiator Duct Adapter

OPTIONS

OPTIONAL COOLING SYSTEM ACCESSORIES

- Coolant Heater 208/240VAC

OPTIONAL FUEL ACCESSORIES

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

OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer (Standard on enclosed gensets)

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

- Digital Controller H-100 (Bulletin 0172110SBY)

ADDITIONAL OPTIONAL EQUIPMENT

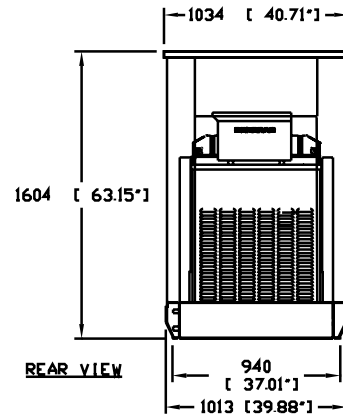
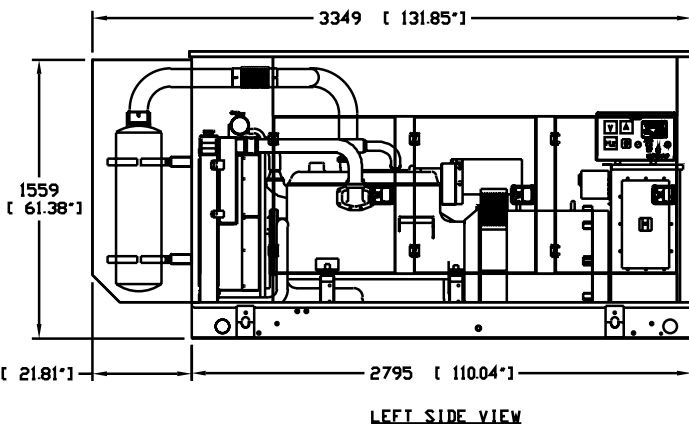
- Automatic Transfer Switch
- 3 Light Remote Annunciator
- 5 Light Remote Annunciator
- 20 Light Remote Annunciator
- Remote Relay Panels
- Unit Vibration Isolators
- Oil Make-Up System
- Oil Heater
- 5 Year Warranties
- Export Boxing
- GenLink® Communications Software

OPTIONAL 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.



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