

SD2000

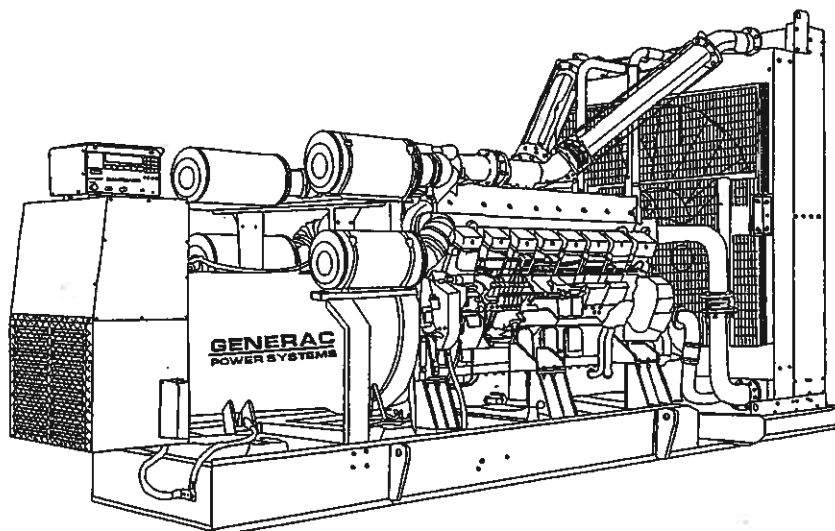
Liquid Cooled Diesel Engine Generator Sets

Standby Power Rating

2000kW 60 Hz / 2250KVA 50 Hz

Prime Power Rating

1800kW 60 Hz / 2000KVA 50 Hz



GENERAC 65/3 DTA ENGINE

Turbocharged / Aftercooled

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." 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
 - ✓ NEMA MG1-22 COMPLIANCE
 - ✓ SYSTEM TORSIONAL ACCEPTANCE
 - ✓ LOAD ACCEPTANCE & TRANSIENT PERFORMANCE
 - ✓ HIGH SPECIFICATION COOLING SYSTEM
 - ✓ COMPREHENSIVE FACTORY PERFORMANCE TESTING
- **3-PHASE SENSING, PMG POWERED VOLTAGE REGULATION:** This state-of-the-art voltage regulation system provides optimum response to varying load conditions, including excellent motor starting ability and superior performance on non-linear loading.
- **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 equates to lower life-cycle operational costs.
- **LONGER ENGINE LIFE:** Mitsubishi heavy-duty industrial diesel engines provide a long and reliable operating life.
- **GENERAC TRANSFER SWITCHES AND ACCESSORIES:** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. The GENERAC product line includes its own transfer systems, accessories, and controls for total system compatibility.

GENERAC®

POWER SYSTEMS

APPLICATION & ENGINEERING DATA

SD2000

GENERATOR SPECIFICATIONS

TYPE	Four-pole, revolving field
ROTOR INSULATION	Class H
STATOR INSULATION	Class H
LINE-TO-LINE HARMONIC FACTOR (MAX)	5%
TELEPHONE INTERFERENCE FACTOR (TIF)	<50
ALTERNATOR	Self-ventilated and drip-proof
BEARINGS (HEAVY DUTY)	1
COUPLING	Direct, Flexible Disc
LOAD CAPACITY (STANDBY)	100%
OVERLOAD 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, and ISO3046 standards.

EXCITATION SYSTEM

☐ PERMANENT MAGNET EXCITER	±0.25% regulation ✓
(standard) Enhances motor starting capabilities ✓	
Isolates excitation power from non-linear loads ✓	
Sustains short circuit current (300% for 10 seconds) ✓	
Mounted outboard of main bearing (for easy maintenance) ✓	
REGULATION	Solid-state ✓
	3-phase sensing ✓
	Optional Var/PF control ✓

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 "H" insulation as defined by NEMA MG1-22 and NEMA MG1-1.
- 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.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, and 2/3 pitch 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 constructed with a tropicalization coating as standard.
- 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, and ISO3046). 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, and ISO8528).

ENGINE SPECIFICATIONS

MAKE	Mitsubishi
MODEL	S16R-PTA-A2
CYLINDERS	16
DISPLACEMENT - liter/(cu. in.)	65.3 (3989)
BORE - mm/(in.)	170 (6.69)
STROKE - mm/(in.)	180 (7.09)
COMPRESSION RATIO	13.5:1
INTAKE AIR	Turbocharged/Aftercooled (Jacket Water)
NUMBER OF MAIN BEARINGS	9
CONNECTING RODS	I-Beam Section
CYLINDER HEAD	Individual Cylinder Heads/Four Valves
PISTONS	Open Chamber/Oil Cooled
CRANKSHAFT	Counter Weighted Type

VALVE TRAIN

LIFTER TYPE	Plain Bearing/Single Cam
HARDENED VALVE SEATS	Yes

ENGINE GOVERNOR

☐ ELECTRONIC / ISOCHRONOUS	Standard
STEADY STATE FREQUENCY REGULATION	±0.25%

LUBRICATION SYSTEM

TYPE OF OIL PUMP	Gear
OIL FILTER	Full Flow Cartridge
SYSTEM CAPACITY - liter(gal.)	230 (60.8)

COOLING SYSTEM

TYPE OF SYSTEM	Pressurized Closed Recovery
WATER PUMP	Pre-Lubed, Self Sealing
TYPE OF FAN	Pusher
COOLANT HEATER	2 x 240V(2500W)

FUEL SYSTEM

FUEL	No. 2 Diesel Fuel
(Fuel should conform to ASTM-D975 Specification)	
FUEL FILTER	Full Flow Cartridge
FUEL INJECTION SYSTEM	Mitsubishi Type PS8 x 2
FUEL PUMP	Mitsubishi/Piston Type
INJECTORS	Mitsubishi/Multi-Hole
ENGINE TYPE	Vee Type Sixteen Cylinder
FUEL LINE (Supply)	1"FNPT
FUEL RETURN LINE	1"FNPT

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR	30 Amps at 24V
STARTER MOTOR	2 x 7.5 kW at 24V
RECOMMENDED BATTERY	4 x 12V
GROUND POLARITY	Negative

SD2000

OPERATING DATA

		STANDBY				PRIME			
		SD2000				SD2000			
GENERATOR RATING / KW-60Hz		Rated AMP				Rated AMP			
277/480V, 3-phase, 0.8 pf	NOTE: Consult your Generac dealer for additional voltages.	2000		3007		1800		2706	
600V, 3-phase, 0.8 pf		2000		2405		1800		2165	
GENERATOR RATING / KVA-50Hz		Rated AMP				Rated AMP			
220/380V, 3-phase, 0.8 pf		2250		3418		2000		3038	
230/400V, 3-phase, 0.8 pf		2250		3248		2000		2887	
240/415V, 3-phase, 0.8 pf		2250		3130		2000		2782	
MOTOR STARTING									
Locked rotor kva at 30% instantaneous voltage dip with standard alternator; 60 Hz-kva (PMG)		415V		480V		415V		480V	
with standard alternator; 50 Hz-kva (PMG)		6800		5700		6800		5700	
FUEL									
Fuel consumption—60 Hz	Load	25%	50%	75%	100%	25%	50%	75%	100%
	gal./hr.	51.6	88.9	130.4	141.4	50.6	87.2	127.8	138.6
	liters/hr.	195.4	336.8	493.7	535.5	191.5	330.0	483.8	524.7
Fuel consumption—50 Hz	gal./hr.	43.1	74.3	108.9	111.8	42.2	72.8	106.7	109.6
	liters/hr.	163.2	281.2	412.2	423.1	159.9	275.6	404.0	414.8
Fuel pump lift	in.	55				55			
COOLING									
Coolant capacity	System - lit./gal.	413 (109.1)				413 (109.1)			
	Engine - lit./gal.	170 (44.9)				170 (44.9)			
	Radiator - lit./gal.	243 (64.2)				243 (64.2)			
Coolant flow/min.	60 Hz - lit./gal.	1850 (489)				1850 (489)			
	50 Hz - lit./gal.	1300 (343)				1300 (343)			
Heat rejection to coolant	BTU/hr.	2,288,400				2,059,740			
Inlet air	60 Hz - m³/min. (cfm)	2500 (88,275)				2500 (88,275)			
	50 Hz - m³/min. (cfm)	2083 (73,550)				2083 (73,550)			
Ambient temperature	°C (°F)	45 (113)				45 (113)			
Air on to RAD	°C (°F)	50 (122)				50 (122)			
Max. external pressure drop on radiator	in. H ₂ O	0.5				0.5			
COMBUSTION AIR REQUIREMENTS									
Flow at rated power	60 Hz - m³/min. (cfm)	182 (6426)				164 (5791)			
	50 Hz - m³/min. (cfm)	159 (5614)				141 (4979)			
EXHAUST									
Exhaust flow at rated output									
	60 Hz - m³/min. (cfm)	482 (17019)				434 (15325)			
	50 Hz - m³/min. (cfm)	420 (14830)				374 (13206)			
Maximum recommended back pressure	Kpa (" Hg)	5.8 (1.74)				5.8 (1.74)			
Exhaust temperature at rated output	°C (°F)	650 (1202)				600 (1112)			
Exhaust outlet size	mm.	340				340			
ENGINE									
Rated RPM	60 Hz	1800				1800			
	50 Hz	1500				1500			
HP at rated KW	60 Hz	2822				2540			
	50 Hz	2540				2258			
Piston speed	60 Hz - m/sec. (ft./min)	10.8 (2126)				10.8 (2126)			
	50 Hz - m/sec. (ft./min)	9.0 (1772)				9.0 (1772)			
BMEP	60 Hz - PSI	311				280			
	50 Hz - PSI	336				299			
POWER ADJUSTMENT FOR AMBIENT CONDITIONS									
Temperature									
	-5% for every 10°C above - C°	40				40			
	-2.77% for every 10°F above - F°	104				104			
Altitude									
	-1.1% for every 100 m above - m	1500				1500			
	-3.5% for every 1000 ft. above - ft.	5000				5000			

STANDARD ENGINE & SAFETY FEATURES

SD2000

- High Coolant Temperature Pre-alarm and Shutdown
- Low Coolant Level Pre-alarm and Shutdown
- Low Oil Pressure Pre-alarm and Shutdown
- Overspeed Shutdown
- Crank Limiter
- Factory-Installed Cool Flow Radiator
- Closed Coolant System
- Radiator Duct Adapter
- Radiator Drain
- Fan Guard
- Isochronous Governor
- Jacket Water Heater

- 24 Volt, Solenoid-activated Starter Motor
- Control Console ("E" Option Panel)
- Air Cleaner
- 3-Phase Sensing, True RMS Voltage Regulator
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Secondary Fuel Filter
- Flexible Fuel Lines
- Oil Drain Extension
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Stainless Steel Flexible Exhaust Connection
- Unit Vibration Isolators (Spring Type)

CONTROL CONSOLE OPTIONS

- STANDARD "E" OPTION PANEL (see Generac Bulletin 0161110SBY)
- RAMPOWER 232 DIGITAL GENERATOR CONTROL PANEL (see Generac Bulletin 0161110SBY)

OPTIONS

- OPTIONAL COOLING SYSTEM ACCESSORIES
 - Remote Radiator/Heat Exchanger
 - Additional Cooling Systems (consult factory)
 - High ambient radiator (consult factory)
 - Low ambient radiator (consult factory)

- OPTIONAL FUEL SYSTEM ACCESSORIES
 - Low Fuel Alarm
 - Fuel Prefiltration System
 - Primary Fuel Filter with Heater
 - UL Listed Fuel Tanks (single/double wall)
 - Electric Fuel Transfer Pump System

- OPTIONAL ELECTRICAL ACCESSORIES
 - 10 - 50A Dual Rate Battery Charger
 - Battery, 24 Volt
 - Battery warmer
 - Main Line Circuit Breaker
 - NEMA 3R Main Line Circuit Breaker Enclosure

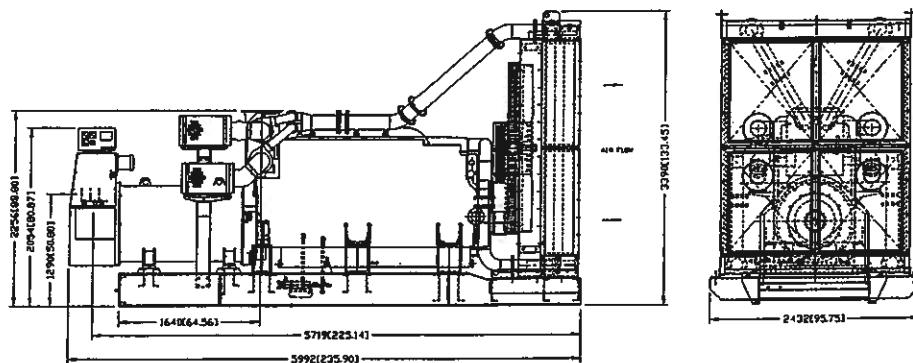
- OPTIONAL EXHAUST ACCESSORIES
 - Industrial Exhaust Silencer
 - Residential Exhaust Silencer
 - Critical Exhaust Silencer
 - Exhaust Outlet Options
 - Straight Extension with Screen
 - 90° Elbow with Rain Cap (Standard with Exhaust Silencer)

- OPTIONAL ALTERNATOR ACCESSORIES
 - Alternator Upsizing (consult factory)
 - Alternator Heater

- ADDITIONAL EQUIPMENT
 - Automatic Transfer Switch (100 Amp - 2600 Amp)
 - Weather Protective Enclosure
 - Sound Attenuating Outdoor Enclosure
 - 20 Light Remote Annunciator
 - Serial Signal Relay Board (V/F Contacts)
 - 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.

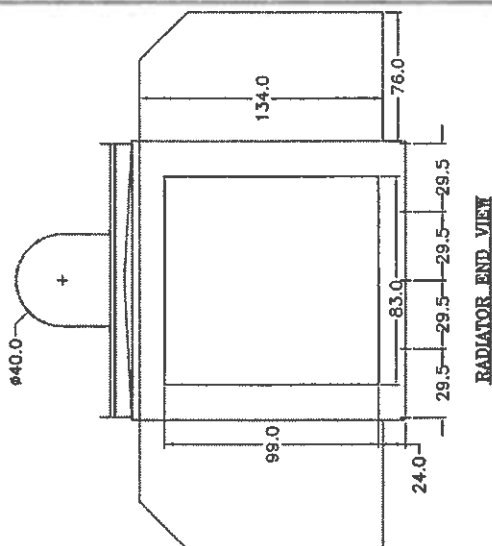
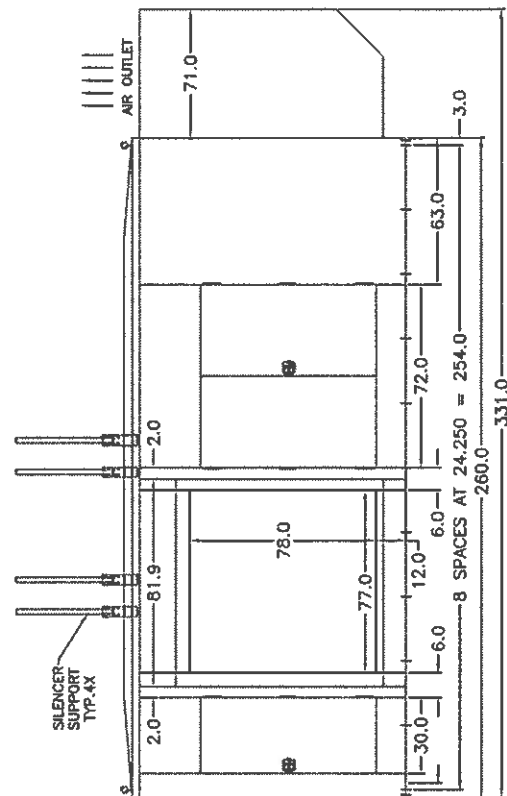


DRY WEIGHT: 29,500 lbs.

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

1. ALL DIMENSIONS ARE IN INCHES.
2. ENCLOSURE IS OF BOLT TOGETHER CONSTRUCTION.
3. ENCLOSURE IS OF 14 GA. STEEL DOOR CONSTRUCTION WITH 12 GA. STEEL ROOF SECTION.
4. HINGED, LOCKABLE ACCESS DOORS HAVE TWO POINT LATCHES.
5. POWDER COAT FINISH (COLOR TO BE SPECIFIED).
6. (2) MUFFLER BRACKETS PROVIDED.
7. STAINLESS STEEL HARDWARE, LIFT-OFF HINGES.
8. (4) LIFTING RINGS PROVIDED.
9. ROOF JOINTS ARE GASKETED.
0. ENCLOSURE NET WEIGHT IS 5,400 LBS.

---AIR INTAKE HOOD.
---AIR EXHAUST HOOD.
2" FOAMINSULATION, MECHANICALLY RESTRAINED.



This review is the conventional, precedent for standard occupational form use by training organizations. Estimates for national, regional, and state-right training organizations.

TRAMONT CORPORATION

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