

LIQUID COOLED DIESEL ENGINE GENERATOR SET

N/ 11 _		STANDBY	
Model	HZ	130°C RISE	
SPMI-8000-60 HERTZ	60	800	



All generator sets are USA prototype built and thoroughly tested. Production models are USA factory built and 100% load tested.



UL2200, UL1446, UL508, UL142, UL498



NFPA 110, 99, 70, 37

All generator sets meet NFPA-110 Level 1, when equipped with the necessary accessories and installed per NFPA standards.



NEC 700, 701, 702, 708



NEMA ICS10, MG1, ICS6, AB1



ANSI C62.41, 27, 59, 32, 480, 40Q, 81U, 360-05



ASCE 7-05 & 7-10

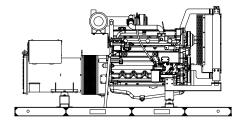
All generator sets meet 180 MPH rating.



EPA 40CFR Part 60, 1048, 1054, 1065, 1068

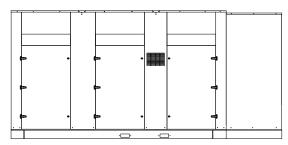
60 HZ MODEL

SPMI-8000



"OPEN" GEN-SET

There is no enclosure, so gen-set must be placed within a weather protected area, uninhabited by humans or animals, with proper ventilation. Silencer not supplied, as installation requirements are not known. However, this item is available as optional equipment.



"LEVEL 2" HOUSED GEN-SET

Full aluminum weather protection and superior sound attenuation for specific low noise applications. Critical grade muffler is standard.

GENERATOR RATINGS

GENERATOR	VOLTAGE		PH	HZ	130°C RISE STA	ANDBY RATING	POWER LEAD
MODEL	L-N	L-L		- !-	KW/KVA	AMP	CONNECTIONS
SPMI-8000-3-2	120	208	3	60	800/1000	2779	12 LEAD LOW WYE
SPMI-8000-3-3	120	240	3	60	800/1000	2408	12 LEAD HIGH DELTA
SPMI-8000-3-4	277	480	3	60	800/1000	1204	12 LEAD HIGH WYE
SPMI-8000-3-5	127	220	3	60	800/1000	2627	12 LEAD LOW WYE
SPMI-8000-3-16	346	600	3	60	800/1000	963	4 LEAD HIGH WYE

RATINGS: All single phase gen-sets are dedicated 4 lead windings, rated at unity (1.0) power factor. All three phase gen-sets are 12 lead windings, rated at .8 power factor. 130° C "STANDBY RATINGS" are strictly for gen-sets that are used for back-up emergency power to a failed normal utility power source. This standby rating allows varying loads, with no overload capability, for the entire duration of utility power outage. All gen-set power ratings are based on temperature rise measured by resistance method as defined by MIL-STD 705C and IEEE STD 115, METHOD 6.4.4. All generators have class H (180°C) insulation system on both rotor and stator windings. All factory tests and KW/KVA charts shown above are based 130°C (standby) R/R winding temperature, within a maximum 40°C ambient condition. Generators operated at standby power ratings must not exceed the temperature rise limitation for class H insulation system, as specified in NEMA MG1-22.40. Specifications & ratings are subject to change without prior notice.

APPLICATION & ENGINEERING DATA FOR MODEL SPMI-8000-60 HZ

GENERATOR SPECIFICATIONS

ManufacturerStamford AVK Electric Generators
Model & Type HCI634H, 4 Pole, 12 Lead, Three Phase
HCI634G.314, 4 Pole, 12 Lead, 480V, Three Phase
HCI634G.07, 4 Pole, 6 Lead, 600V, Three Phase
ExciterBrushless, PMG excited
Voltage Regulator Solid State, HZ/Volts
Voltage Regulation
FrequencyField convertible, 60 HZ to 50 HZ
Frequency Regulation± ½% (1/2 cycle, no load to full load)
Unbalanced Load Capability100% of standby amps
One Step Load Acceptance 100% of nameplate rating
Total Stator and Load Insulation
Temperature Rise 130°C R/R, standby rating @ 40°C amb.
3 Ø Motor Starting @ 30% Voltage Dip (208-240V)1800 kVA
3 Ø Motor Starting @ 30% Voltage Dip (480V-600V) 2350 kVA
Bearing
CouplingDirect flexible disc.
Total Harmonic Distortion
Telephone Interference Factor Max 50 (NEMA MG1-22)
Deviation Factor Max 5% (MIL-STD 405B)
Alternator Self ventilating and drip-proof
Ltd. Warranty Period 24 Months from start-up date or

GENERATOR FEATURES

- World Renown STAMFORD Generator having UL-1446 certification.
- Full generator protection with Deep Sea 7420 controller, having UL-508 certification.
- Automatic voltage regulator with over-excitation, underfrequency compensation, under-speed protection, and EMI filtering. Entire solid-state board is encapsulated for moisture protection.
- Generator power ratings are based on temperature rise, measured by resistance method, as defined in MIL-STD 705C and IEEE STD 115, Method 6.4.4.
- Power ratings will not exceed temperature rise limitation for class H insulation as per NEMA MG1-22.40.
- Insulation resistance to ground, exceeds 1.5 meg-ohm.
- Stator receives 2000 V. hi-potential test on main windings, and rotor windings receive a 1500 V. hi-potential test, as per MIL-STD 705B.
- Full amortisseur windings with UL-1446 certification.
- Complete engine-generator torsional acceptance, confirmed during initial prototype testing.
- Full load testing on all engine-generator sets, before shipping.

ENGINE SPECIFICATIONS AND APPLICATIONS DATA

ENGINE

FUEL SYSTEM

Diesel Fuel Oil (ASTM No. 2-D)
Direct Injection
Electronic, Bosch P Type x2
127 (480)
Yes
10 (3)

FUEL CONSUMPTION

GAL/HR (LITER/HR)	STANDBY
100% LOAD	67.4 (255)
75% LOAD	46.1 (175)
50% LOAD	31.3 (119)

OIL SYSTEM

Type	Full Pressure
• 1	105.67 (100)
1 1 1	126.80 (120)
1 1	3. Replaceable Cartridge Type

ELECTRICAL SYSTEM

Recommended battery to -18°C (0° F):(2) 12 VDC, BCI# 31, Max. Dimensions: 14"lg x 6 3/4" wi x 10" hi, with standard round posts. Min output 1400 CCA. Battery tray (max. dim. at 15"lg x 7"wi). This model has (2) battery trays, (2) hold down straps, (2) sets of battery cables, and (1) battery charger. Installation of (2) 12VDC starting batteries connected in series for 24VDC output is required, with possible higher AMP/HR rating, as described above, if the normal environment temperature averages -13° F (-25°C) or cooler.

CERTIFICATIONS

All engines are EPA emissions certified. All emergency stationary diesel engines are Tier II compliant.

APPLICATION & ENGINEERING DATA FOR MODEL SPMI-8000-60 HZ

COOLING SYSTEM

Type of System Air to Air, Charged Air C Coolant PumpPre-lubricated, self-se	
Cooling Fan Type (no. of blades)Pusher	_
Fan Diameter inches (cm)60	(152)
Ambient Capacity of Radiator °F (°C)122	(50)
Engine Jacket Coolant Capacity gal. (L)26.4	(100)
Radiator Coolant Capacity gal. (L)80.0	(303)
Water Pump Capacity gpm (L/min)291 (1	,102)
Heat Reject Coolant: Btu/min20	
Air to Air Heat Reject, BTU/min.	7,969
Low Radiator Coolant Level ShutdownStan	dard
Note: Coolant temp. shut-down switch setting at 228°F (109°C) w	ith
50/50 (water/antifreeze) mix.	

COOLING AIR REQUIREMENTS

Combustion Air cfm (m³/min)	3,107 (87.9)
Max Air Intake Restrictions:	
Clean Air Cleaner, KPA (MBAR)	2 (20)
Max. Temp. out of Charger Air Cooler	
@ 77° F (25°C), Amb. Air °F (°C)	180 (82)
Radiator Cooling Air, SCFM (m³/min)	

EXHAUST SYSTEM

Exhaust Outlet Size	12"
Max. Back Pressure in KPA (in. H2O)	5.9 (24.1)
Exhaust Flow, at rated KW, CFM (m3/min)	` '
Exhaust Temp, (Stack) °F (°C)	883 (473)

SOUND LEVELS MEASURED IN dB(A)

	Open	Level 2	
	Set	Encl.	
Level 2, Critical Silencer	99	88	
Level 3, Hospital Silencer	94	82	

Note: Open sets (no enclosure) have optional silencer system choices due to unknown job-site applications. Level 2 enclosure has installed critical silencer with upgrade to Level 3 hospital silencer. Sound tests are averaged from several test points and taken at 23 ft. (7 m) from source of noise at normal operation.

DERATE GENERATOR FOR ALTITUDE

3% per 1000 ft.(305m) above 3000 ft. (914m) from sea level

DERATE GENERATOR FOR TEMPERATURE

2% per 10°F(5.6°C) above 104°F (40°C)

DIMENSIONS AND WEIGHTS

	Open	Level 2
	Set	Enclosure
Length in (cm)	186 (472)	234 (595)
Width in (cm)	82 (208)	82 (208)
Height in (cm)	94 (238)	110 (279)
3 Ø Net Weight lbs (kg)	18950 (8595)	19440 (8817)
3 Ø Ship Weight lbs (kg)	19340 (8772)	21840 (9906)

DEEP SEA 7420MKII DIGITAL MICROPROCESSOR CONTROLLER



Deep Sea 7420MKII

The "7420MKII" controller is an auto start mains (utility) failure module for single gen-set applications. This controller includes a backlit LCD display which continuously displays the status of the engine and generator at all times.

The "7420MKII" controller will also monitor speed, frequency, voltage, current, oil pressure, coolant temp., and fuel levels. These modules have been designed to display warning and shut down status. It also includes: (11) configurable inputs • (8) configurable outputs • voltage monitoring • mains (utility) failure detection • (250) event logs • configurable timers • automatic shutdown or warning during fault detection • remote start (on load) • engine preheat • advanced metering capability • hour meter • text LCD 132 x 64 pixel ratio display • protected solid state outputs • test buttons for: stop/reset • manual mode • auto mode • lamp test • start button • power monitoring (kWh, kVAr, kVAh, kVArh) • IP65 rating (with supplied gasket)

This controller includes expansion features including RS232, RS484 (using MODBUS-RTU/TCP), direct USB connection with PC, expansion optioned using DSENet for remote annunciation and remote relay interfacing for a distance of up to 3300FT. The controller software is freely downloadable from the Deep Sea website and allows monitoring with direct USB cable, LAN, or by internet via the built in web interface.

Advanced Features:

PLC editor allow user configurable functions to meet specific application requirements • Data logging to assist with fault finding with 20 parameter data logging and recording on USB drives • Multiple date and time scheduler • Set maintenance periods can be configured to maintain optimum engine performance • Modules can be integrated into building management systems (BMS) using MODBUS • Configurable MODBUS pages with RTU & TCP support • Fully configurable via DSE Configuration Suite PC software • Remote SCADA monitoring via DSE Configuration Suite PC software • Engine exerciser • Automatic load transfer • Multiple configurations

STANDARD FEATURES FOR MODEL SPMI-8000-60 HZ

STANDARD FEATURES

CONTROL PANEL:

Deep Sea 7420 digital microprocessor with logic allows programming in the field. Controller has:

- STOP-MANUAL-AUTO modes and automatic engine shutdowns, signaled by full text LCD indicators:
- Low oil pressure
- Engine fail to start
- High engine temp
- Engine over speed
- Low Radiator Level
- Engine under speed
- Three auxiliary alarms
- Over & under voltage
- Battery fail alarm

Also included is tamper-proof engine hour meter

ENGINE:

Fuel filter • Full flow Oil filter • Air filter • Fuel pump • Oil pump • Solenoid type starter motor • Hi-temp radiator • Jacket water pump • Thermostat • Pusher fan and guard • Exhaust manifold • Electronic Governor • 24 VDC battery charging alternator • Flexible fuel and exhaust connectors • Vibration isolators • Open coolant recovery system with 50/50 water to anti-freeze mixture • flexible oil & radiator hose • Shut-down sensors for low oil pressure, high coolant temp., low coolant level, high ambient temp.

Design & specifications subject to change without prior Dimensions shown are approximate. Contact Gillette for certified drawings. DO NOT USE DIMENSIONS FOR INSTALLATION PURPOSES.

AC GENERATOR SYSTEM:

AC generator • PMG excited • Brushless design • Circuit Breaker installed and wired to gen-set • Direct connection to engine with flex disc • Class H, 180°C insulation • Self ventilated • Drip proof construction • UL Certified

VOLTAGE REGULATOR:

1% Voltage regulation • EMI filter • Under-speed protection • Over-excitation protection • total encapsulation

DC ELECTRICAL SYSTEM:

Battery tray • Battery cables • Battery hold down straps • 3-stage battery charger with float, absorption, & bulk automatic charge stages

WEATHER / SOUNDPROOF ALUMINUM HOUSING:

Corrosion Resistant Protection consisting of:

- (9) Heated and Agitated Wash Stages
- Zinc Phosphate Etching-Coating Stage
- Final Baked on Enamel Powder Coat
- 18/8 Stainless Steel Hardware

