



GILLETTE GENERATORS

LIQUID COOLED DIESEL ENGINE GENERATOR SET

Model	HZ	STANDBY 120°C RISE
	SPVD-1000-60 HERTZ	60



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



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



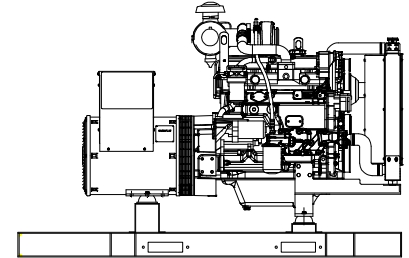
ASCE 7-05 & 7-10

All generator sets meet 180 MPH rating.



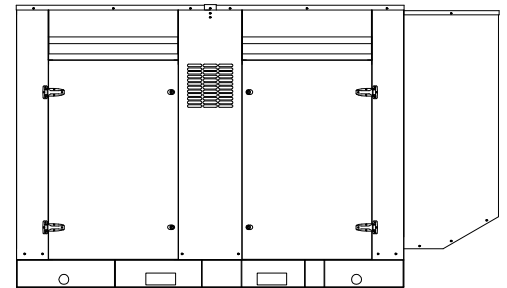
EPA 40CFR Part 60, 1048, 1054, 1065, 1068

60 HZ MODEL SPVD-1000



“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 MODEL	VOLTAGE		PH	HZ	120°C RISE STANDBY RATING		POWER LEAD CONNECTIONS
	L-N	L-L			KW/KVA	AMP	
SPVD-1000-1-1	120	240	1	60	100/100	416	4 LEAD DEDICATED 1 PH
SPVD-1000-3-2	120	208	3	60	100/125	347	12 LEAD LOW WYE
SPVD-1000-3-3	120	240	3	60	100/125	301	12 LEAD HIGH DELTA
SPVD-1000-3-4	277	480	3	60	100/125	150	12 LEAD HIGH WYE
SPVD-1000-3-5	127	220	3	60	100/125	328	12 LEAD LOW WYE
SPVD-1000-3-16	346	600	3	60	100/125	120	4 LEAD DEDICATED

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. 120° 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 120°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 SPVD-1000-60 HZ

GENERATOR SPECIFICATIONS

Manufacturer.....Stamford Electric Generators
Model & Type.....UCI274D-06, 4 Pole, 4 Lead, Single Phase
.....UCI274D-311, 4 Pole, 12 Lead re-connectable, Three Phase
.....UCI274D-17, 4 Pole, 6 Lead, 600V, Three Phase
Exciter.....Brushless, shunt excited
Voltage Regulator.....Solid State, HZ/Volts
Voltage Regulation.....½%, No load to full load
Frequency.....60 HZ
Frequency Regulation.....± ½% (1/2 cycle, no load to full load)
Unbalanced Load Capability.....100% of standby amps
Total Stator and Load Insulation.....Class H, 180°C
Temperature Rise.....120°C R/R, standby rating @ 40°C amb.
1 Ø Motor Starting @ 30% Voltage Dip (240V).....360 kVA
3 Ø Motor Starting @ 30% Voltage Dip (208-240V).....400 kVA
3 Ø Motor Starting @ 30% Voltage Dip (480V).....520 kVA
3 Ø Motor Starting @ 30% Voltage Dip (600V).....445 kVA
Bearing.....1, Pre-lubed and sealed
Coupling.....Direct flexible disc.
Total Harmonic Distortion.....Max 3½% (MIL-STD705B)
Telephone Interference Factor.....Max 50 (NEMA MG1-22)
Deviation Factor.....Max 5% (MIL-STD 405B)
Ltd. Warranty Period.....24 Months from date of start-up or
.....1000 hours use, first to occur.

GENERATOR FEATURES

- World Renown Stamford Electric Generator having UL-1446 certification.
- Full generator protection with **Basler DGC-2020** controller, having UL-508 certification.
- Automatic voltage regulator with over-excitation, under-frequency 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.
- Self ventilating and drip-proof & revolving field design

ENGINE SPECIFICATIONS AND APPLICATIONS DATA

ENGINE

Manufacturer.....VOLVO-PENTA
Model and Type.....TAD551GE, 4 cycle, liquid Cooled
Aspiration.....Turbocharged
Charged Air Cooling System.....Air to Air
Cylinder Arrangement.....4 Cylinders, In-Line
Displacement Cu. In. (Liters).....290.7 (4.76)
Bore & Stroke In. (Cm.).....4.25 x 5.12 (10.8 x 13.0)
Compression Ratio.....18.0:1
Main Bearings.....Tin Overlay with Babbit Backing
Cylinder Head.....Cast Iron with overhead Cam
Pistons.....Aluminum Alloy with Graphite Coating
Crankshaft.....Induction Hardened, Heat Treated Forged
Valves.....Heat Treated and Hardened Exhaust Valve
Governor.....Electronic, EMS 2.2
Frequency Regulation.....± 1/4%
Air Cleaner.....Dry, Replaceable Cartridge
Engine Speed.....1800 rpm
Oil Filter.....1, Replaceable Spin-On
Max Power, bhp (kwm) Standby.....155 (114)
BMEP: psi (MPa) Standby.....232 (1.6)
Ltd. Warranty Period.....2 Year or 1000 hrs, first to occur

FUEL SYSTEM

Type.....Diesel Fuel Oil (ASTM No. 2-D)
Combustion System.....Direct Injection
Fuel Injection Pump.....Stanadyne Rotary Type
12 VDC Air Intake Heaters.....Standard Equipment
Fuel Filter and Water Separator.....Yes

FUEL CONSUMPTION

GAL/HR (LITER/HR)	STANDBY
100% LOAD	8.2 (31.1)
75% LOAD	6.7 (25.3)
50% LOAD	5.9 (22.3)

OIL SYSTEM

Type.....Full Pressure
Oil Pan Capacity qt. (L).....11.6 (11.0)
Oil Pan Cap. W/ filter qt. (L).....13.6 (13.0)
Oil Filter.....1, Replaceable Spin-On

ELECTRICAL SYSTEM

Ignition System.....Electronic
Eng. Alternator/Starter: 24 VDC, negative ground, 80 amp/hr.
Recommended battery to -18°C (0° F):(2) 12 VDC, BCI# 27,
Max. Dimensions: 12”lg x 6 3/4” wi x 9” hi, with standard round posts. Min output 700 CCA. Battery tray (max. dim. at 12”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 CARB and EPA emissions certified. All stationary diesel engines are Tier III compliant.

APPLICATION & ENGINEERING DATA FOR MODEL SPVD-1000-60 HZ

COOLING SYSTEM

Type of System	Air to Air, Charged air cooler
Coolant Pump	Pre-lubricated, self-sealing
Cooling Fan Type (no. of blades)	Pusher (7)
Fan Diameter inches (cm)	22" (55.9)
Ambient Capacity of Radiator °F (°C).....	125 (51.6)
Engine Jacket Coolant Capacity Qt. (L)	7.92 (7.5)
Radiator Coolant Capacity Qt. (L).....	16 (14.5)
Water Pump Capacity gpm (L/min).....	40 (149)
Heat Reject Coolant: Btu/min (kw)	3810 (67)
Air to Air Heat Reject Btu/min (kw)	1308 (23)
Low Radiator Coolant Level Shutdown.....	Standard

Note: Coolant temp. shut-down switch setting at 221°F (105°C) with 50/50 (water/antifreeze) mix.

COOLING AIR REQUIREMENTS

Combustion Air cfm (m ³ /min)	332 (9.4)
Max. Air Intake Restriction:	
Clean Air Cleaner, H ₂ O (KPA).....	15 (3.75)
Intake Manifold Pressure, Psi (kpa).....	28 (190)
Max. Allowance Temp. Rise Amb:	
Air to Engine Inlet °F (°C).....	15 (8)
Max. Temp. out of Charged Air Cooler:	
@77° F (25°C) Amb. Air, °F (°C).....	140 (60)
Radiator Cooling Air, SCFM (m ³ /min).....	6400(181)

EXHAUST SYSTEM

Exhaust Outlet Size	3"
Max. Back Pressure in H ₂ O (kpa)	30 (7.5)
Exhaust Flow, at rated KW, cfm (m ³ /min)	851 (24.1)
Exhaust Temp., at rated KW, °F (°C).....	1148 (620)

SOUND LEVELS MEASURED IN dB(A)

	Open Set	Level 2 Encl.
Level 2, Critical Silencer	80.....	75
Level 3, Hospital Silencer		70

Note: Open sets (no enclosure) have 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 Set	Level 2 Enclosure
Length in (cm).....	98 (249)	122 (310)
Width in (cm).....	48 (122)	48 (122)
Height in (cm).....	50 (127)	71 (181)
1 Ø Net Weight lbs (kg).....	2709 (1229) ...	3529 (1601)
1 Ø Ship Weight lbs (kg)	2899 (1315) ...	3779 (1715)
3 Ø Net Weight lbs (kg).....	2576 (1169) ...	3396 (1541)
3 Ø Ship Weight lbs (kg)	2766 (1255) ...	3646 (1654)

BASLER DGC-2020 DIGITAL MICROPROCESSOR CONTROLLER



BASLER DGC-2020

The "2020" controller is a highly advanced integrated gen-set control system 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.

Basler "DGC-2020" includes: Generator metering (including three phase) • Engine – Generator protections including IEEE-[27] under voltage, [32] power, [40] loss of excitation, [59] over voltage, [81] over and under frequency, Exercise timer • SAE J1939 engine ECU communications • Expansion capabilities for both inputs and outputs with expansion • Remote communications through RS-485 to Basler's RDP110 remote Display panel • (16) programmable contact inputs • (15) programmable contact outputs- (3) for up to 30AmpDC and (12) for up to 2 Amp DC • Illuminated Text Display • Front panel menu scroll buttons • Front panel operation mode buttons for STOP, RUN and AUTO • Alarm Silence and Lamp Test buttons

This controller includes expansion features including, RS485 (using MODBUS), direct USB connection with PC, expansion optioned using BESTCOMSPPlus for remote annunciation and remote relay interfacing for a distance of up to 3300FT. The controller software is freely downloadable from the internet and allows monitoring with direct USB cable, LAN, or by internet via the built in web interface.



Further expansion is available by adding the optional RDP-110 remote display panel module. This featured device will allow Four programmable LEDs (2) alarms and (2) pre-alarms • (17) alarms and pre-alarms displayed from Basler controller • audible alarm horn •

lamp test and alarm silence buttons • RD100 local power supply inputs of either 12vdc or 24vdc • connects through Basler controller through RS-485 communications protocol • conduit box included for (2) mounting configurations- either surface mount or semi-flush mounting.

STANDARD FEATURES FOR MODEL SPVD-1000-60 HZ

STANDARD FEATURES

ENGINE: CONTROL PANEL:

- Basler DGC-2020 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:

- Full flow oil filter • Air filter • Oil pump • Solenoid type starter motor • Hi-temp radiator • Jacket water pump
- Thermostat • Pusher fan and guard • Exhaust manifold
 - 24 VDC battery charging alternator • Flexible exhaust connector • "Isochronous" duty, electronic governor • Vibration isolators • Closed coolant recovery system with 50/50 water to anti-freeze mixture • flexible oil & radiator drain hose.

AC GENERATOR SYSTEM:

- AC generator • Shunt 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:

- ½% Voltage regulation • EMI filter • Under-speed protection • Over-excitation protection • total encapsulation

DC ELECTRICAL SYSTEM:

- Battery tray • Battery cables • Battery hold down straps • 2-stage battery float charger with maintaining & recharging automatic charge stages

WEATHER/SOUND PROOF 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

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

