



GILLETTE GENERATORS

LIQUID COOLED NAT. GAS ENGINE GENERATOR SET

60 HZ MODEL
PR-5400

Model	PRIME 105°C RISE		
	HZ	LPG	N.G.
PR-5400-60 HERTZ	60	350	540



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

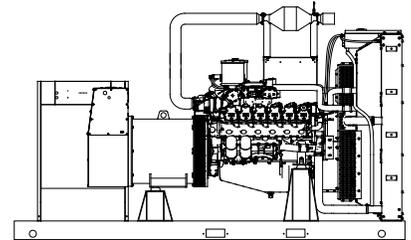


ASCE 7-05 & 7-10

All generator sets meet 180 MPH rating.

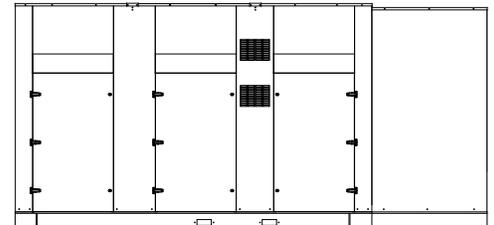


EPA 40CFR Part 60, 1048, 1054, 1065, 1068



“OPEN” GEN-SET

There is no enclosure, so gen-set must be placed within a weather protected area, un-inhabited 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	LIQUID PROPANE GAS FUEL		NATURAL GAS FUEL	
	L-N	L-L			105°C RISE PRIME RATING		105°C RISE PRIME RATING	
					KW/KVA	AMP	KW/KVA	AMP
PR-5400-3-2	120	208	3	60	350/438	1216	540/675	1875
PR-5400-3-3	120	240	3	60	350/438	1054	540/675	1625
PR-5400-3-4	277	480	3	60	350/438	527	540/675	812
PR-5400-3-5	127	220	3	60	350/438	1150	540/675	1773
PR-5400-3-16	346	600	3	60	350/438	421	540/675	650

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. 105°C “PRIME RATINGS” are strictly for gen-sets provide the prime source of electric power, where normal utility power is unavailable or unreliable. A 10% overload is allowed for a total of 1 hour, within every 12 hours of operation of PRIME RATED systems. 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 on 105°C (prime) R/R winding temperature, within a maximum 40°C ambient condition. Specifications & ratings are subject to change without prior notice.

APPLICATION AND ENGINEERING DATA FOR MODEL PR-5400-60 HZ

COOLING SYSTEM

Type of System Pressurized, closed recovery
 Coolant PumpPre-lubricated, self-sealing
 Cooling Fan Type (no. of blades) Pusher (10)
 Fan Diameter inches (mm)..... 68" (1727)
 Ambient Capacity of Radiator °F (°C)..... 125 (51.6)
 Engine Jacket Coolant Capacity Gal (L).....23.3 (88.1)
 Radiator Coolant Capacity Gal. (L)39 (148)
 Maximum Restriction of Cooling Air Intake
 and discharge side of radiator in. H₂O (kpa)..... 0.5 (.125)
 Water Pump Flow gpm (L/min).....436 (1650)
 Heat Reject Coolant: Btu/min (kw) 34,074 (599)
 Low Radiator Coolant Level Shutdown.....Standard
 Note: Coolant temp. shut-down switch setting at 230°F (110°C) with 50/50
 (water/antifreeze) mix.

AIR REQUIREMENTS

Combustion Air, cfm (m³/min) 1396 (40)
 Radiator Air Flow cfm (m³/min).....65,100 (1843)
 Heat Rejected to Ambient:
 Engine: kw (btu/min)..... 146 (8310)
 Alternator: kw (btu/min)..... 65 (3696)

EXHAUST SYSTEM

Exhaust Outlet Size..... (2) 6"
 Max. Back Pressure, in. hg (KPA)..... 3.0 (10.2)
 Exhaust Flow, at rated kw: cfm (m³/min)4079 (115)
 Exhaust Temp., at rated kw: °F (°C)1183 (639)
 Engines are EPA certified for Natural Gas.

SOUND LEVELS MEASURED IN dB(A)

	Open Set	Level 2 Encl.
Level 2, Critical Silencer	97.....	86
Level 3, Hospital Silencer.....	92.....	80

Note: Open sets (no enclosure) has (2) optional silencer system choices due to unknown job-site applications. Level 2 enclosure has installed critical silencer with upgrade to 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).....	186 (472)	246 (625)
Width in (cm).....	92 (234)	92 (234)
Height in (cm).....	98 (249)	116 (295)
3 Ø Net Weight lbs (kg).....	15950 (7235) ..	18940 (8591)
3 Ø Ship Weight lbs (kg)	16340 (7412) ..	19340 (8772)

DEEP SEA 7420 DIGITAL MICROPROCESSOR CONTROLLER



DEEP SEA 7420

The 7420 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 7420 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 displays
 - protected solid state outputs
 - test buttons for: stop/reset
 - manual mode
 - auto mode
 - lamp test
 - start button
 - power monitoring (kWh, kVar, kVAh, kVArh)
- 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 internet and allows monitoring with direct USB cable, LAN, or by internet via the built in web interface.

LOW LOAD CONDITIONS: Operation of PSI HD engines at low-load conditions should be limited to no more than one (1) hour per twenty-four (24) hour period. If the application requires extended time at light loads, it is recommended that the engine load be increased to at least 70% of mechanical rating for a minimum of two (2) hours per fifty (50) hours of low-load operation. Piston sealing rings rely on adequate cylinder firing pressure and temperature to seal the combustion chamber and prevent excessive engine oil from entering the power cylinder. Under low loads these rings will not seal properly, resulting in oil being burned in the combustion chamber and carbon deposits on pistons and valves. This mechanism is well-documented in reciprocating engines of all fuel types and is often referred to as "wet-stacking."

STANDARD FEATURES FOR MODEL PR-5400-60 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:

- 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 • Secondary dry fuel regulator • Dry fuel lock-off solenoid • 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.

