



# GILLETTE GENERATORS

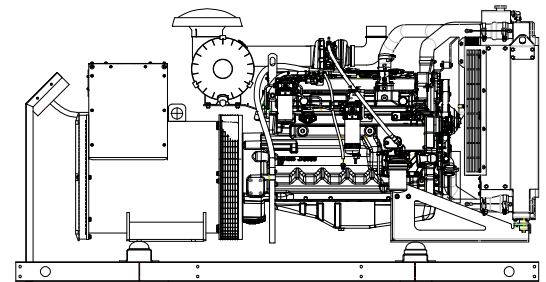
LIQUID COOLED DIESEL ENGINE GENERATOR SET

MODEL  
**PJD-2100**  
60 HERTZ

|       |    |                       |
|-------|----|-----------------------|
| Model | HZ | STANDBY<br>150°C RISE |
|       | 60 | 210                   |

## STANDARD FEATURES

- All generator sets are USA prototype built and thoroughly tested. Production models are USA factory built and 100% load tested.
- All generator sets meet NFPA-110. Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- All generators are UL-1446 certified.
- Solid state, frequency compensated voltage regulation is standard on all gen-sets.
- Electronic governor for precise frequency regulation.
- Deep Sea “7420” digital controller allows programming to basic engine functions in the field. Controller has stop-manual-auto mode and engine shutdowns, signaled by LCD indicators.
- All generator set control systems components and accessories provide a 1-year limited warranty at time of initial start-up. Generators and engines are governed by separate warranties.
- PJD Generator Sets: 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.
- PJD Frame: The frame is designed to be as wide as the gen-sets radiator, so that the gen-set can fit within a standard 38” wide doorway.



“PJD” GEN-SET

## GENERATOR RATINGS

| GENERATOR MODEL | VOLTAGE |     | PH | HZ | 150°C RISE STANDBY RATING |     | POWER LEAD CONNECTIONS |
|-----------------|---------|-----|----|----|---------------------------|-----|------------------------|
|                 | L-N     | L-L |    |    | KW/KVA                    | AMP |                        |
| PJD-2100-1-1    | 120     | 240 | 1  | 60 | 210/210                   | 875 | 4 LEAD DEDICATED 1 PH  |
| PJD-2100-3-2    | 120     | 208 | 3  | 60 | 210/263                   | 729 | 12 LEAD LOW WYE        |
| PJD-2100-3-3    | 120     | 240 | 3  | 60 | 210/263                   | 632 | 12 LEAD HIGH DELTA     |
| PJD-2100-3-4    | 277     | 480 | 3  | 60 | 210/263                   | 316 | 12 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. 150° 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 150°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 AND ENGINEERING DATA FOR MODEL PJD-2100-60 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) .....   | 13 (12.3)                      |
| Radiator Coolant Capacity Qt. (L).....   | 24 (22.7)                      |
| Water Pump Capacity gpm (L/min).....   | 70 (265)                       |
| Heat Reject Coolant: Btu/min (kw) .....  | 5404 (94.9)                    |
| Air to Air Heat Reject, BTU/min (kw) .....   | 3264 (57.34)                   |
| Low Radiator Coolant Level Shutdown.....   | Standard                       |
| Note: Coolant temp. shut-down switch setting at 220°F (104°C) with 50/50 (water/antifreeze) mix. |                                |

## COOLING AIR REQUIREMENTS

|   |              |
|---|--------------|
| Combustion Air cfm (m <sup>3</sup> /min) .....        | 619 (17.5)   |
| Max Air Intake Restrictions:                          |              |
| Clean Air Cleaner, H <sub>2</sub> O (KPA).....        | 15 (3.75)    |
| Intake Manifold Pressure, Psi (kpa).....              | 37 (252)     |
| Max. Allowable Temp. Rise, Amb.                       |              |
| Air to Eng. Inlet, °F (°C) .....                      | 15 (8)       |
| Max. Temp. out of Charger Air Cooler                  |              |
| @ 77° F (25°C), Amb. Air °F (°C) .....                | 140 (60)     |
| Radiator Cooling Air, SCFM (m <sup>3</sup> /min)..... | 8000 (226.5) |

## EXHAUST SYSTEM

|  |             |
|--|-------------|
| Exhaust Outlet Size .....                                | 4"          |
| Max. Back Pressure in H <sub>2</sub> O (kpa).....        | 40 (10)     |
| Exhaust Flow, at rated KW, cfm (m <sup>3</sup> /min) ... | 1514 (42.9) |
| Exhaust Temp, at rated KW, °F (°C).....                  | 905 (485)   |

## SOUND LEVELS MEASURED IN dB(A)

|                                    |                 |
|------------------------------------|-----------------|
|                                    | <u>Open Set</u> |
| Level 1, Residential Silencer..... | 90              |
| Level 2, Critical Silencer .....   | 86              |
| Level 3, Hospital Silencer .....   | 84              |

Note: Open sets (no enclosure) has (3) optional silencer system choices due to unknown job-site applications.

## DERATE GENERATOR FOR ALTITUDE

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

## DERATE GENERATOR FOR TEMPERATURE

2% per 10°F (12°C) above 85°F (30°C)

## DIMENSIONS AND WEIGHTS

|                                |                 |
|--------------------------------|-----------------|
|                                | <u>Open Set</u> |
| Length in (cm).....            | 106 (269)       |
| Width in (cm).....             | 34 (86)         |
| Height in (cm).....            | 55 (140)        |
| 1 Ø Net Weight lbs (kg).....   | 3709 (1682)     |
| 1 Ø Ship Weight lbs (kg) ..... | 3959 (1796)     |
| 3 Ø Net Weight lbs (kg).....   | 3404 (1544)     |
| 3 Ø Ship Weight lbs (kg) ..... | 3654 (1657)     |

# DEEP SEA 7420 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.

## STANDARD FEATURES OF PJD SERIES ARE:

Solid State Digital Microprocessor providing automatic engine start-stop; auto shutdown for low oil, high temperature, over speed, under speed, engine fail, engine crank failure (after 3 failed crank attempts); battery charge fail; a “automatic mode off” warning indicator and a built-in (10) second engine start delay and (2) minute engine cool down delay. Timer cycles can be disabled in the field if application requirements so dictate.

# STANDARD FEATURES FOR MODEL PJD-2100-60 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
- High engine temp
- Low Radiator Level
- Three auxiliary alarms
- Battery fail alarm
- Engine fail to start
- Engine over speed
- Engine under speed
- Over & under voltage

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
- Residential Silencer • 12 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

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

### AC GENERATOR SYSTEM:

AC generator • Shunt excited • Brushless design • Direct connection to engine with flex disc • Class H, 180°C insulation • Self ventilated • Drip proof construction

### 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

