



## Industrial Diesel Generator Set – PDG100SN-E 60 Hz – Ultra Silent Stage 3 Low Emission



PDG100SN-E

### Powercity premium quality

- Soundproof & weatherproof
- Complete standalone unit
- Rated load and overload tested
- Pure sine wave voltage output
- User friendly & compact digital controller
- Automatic Voltage Regulator (AVR)
- Ultra-silent operation (57 dB(A) @7 meters)
- Stage 3 low emission CRDI engine
- Integral vibration isolators
- 500 liters double wall skid base fuel tank

### Ratings

- 220/440 V – 60 Hz
- Standby: 110 kVA – 88 kW
- Prime: 100 kVA – 80 kW

### Engine

- Common Rail Direct Injection (CRDI) engine
- Bosch Electronic Engine Control Unit (ECU) for precise engine management, fuel efficiency and lower emission for modern engines.
- Low temperature starting capability.
- Minimizes wet stacking at low load operation.

### Alternator

- Brushless, self-excited (shunt type) for simple and cost-effective solution.
- Built with class H insulation and IP 21 enclosure.
- Factory impregnated epoxy varnished.
- Heavy duty steel frame cast-iron cover.
- Stator grease insulation covered.
- Flywheel location cooling fan.
- Manufactured in conformance to NEMA MG1, ISO 8528-3, IEC 34-1, and BS 5000-3 standards.

### Cooling

- Compact and complete solution using a mechanically driven radiator fan.
- Standard cooling system which can operate at ambient temperatures of 40 degrees Celsius.

### Enclosure

- Conforms to North American standard NEMA 250-3R suitable for outdoor use rain or shine. Equivalent to IP 24 in European standard.
- Factory rust proofed.
- Equipped with lift handle centrally positioned for balance lifting by boom truck or crane with proper slings for transporting the generator set. (Note: Slings are not included in the product).
- Conforms to ISO 8528-1 for fully resilient mounting with integral rubber anti-vibration mounts to ensure vibration damping.

### Fuel Tank

- 500 liters double wall skid base fuel tank.
- Double wall for spill containment.
- Close top dike construction to resist precipitation or debris from entering the dike area.
- Lockable fuel filler cap prevents fuel theft.
- Passive fuel gauge indicating fuel level. (Note: Fuel level, in percentage, can also be monitored from the generator controller).
- Designed with normal vent and emergency vent in conformance to UL 142 and NFPA 30.

### Control Panel

- Digital display with intelligent processor and user-friendly features. User can manually start and stop the generator set or put the unit into automatic mode to make it start automatically when grid power failure occurred.
- SCADA capability (optional) with choices of communication interface using LINK, RS485, RS232, USB, CANBUS, GSM and ETHERNET.

### Product Conformance

- NEMA MG1: Motors and Generators
- ISO 8528-1: Reciprocating internal combustion engine driven alternating current generating sets – Part 1: Application, ratings, and performance.
- ISO 8528-3: Reciprocating internal combustion engine driven alternating current generating sets – Part 3: AC generators for generating sets.
- IEC 34-1: Rotating electrical machines – Part 1: Rating and performance.
- BS 5000-3: Rotating electrical machines of particular types or for particular applications – Part 3: Generators to be driven by reciprocating internal combustion engines – Requirements for resistance to vibration.
- ANSI/NEMA 250: American National Standard for Enclosures for Electrical Equipment (1000 Volts Max.)
- UL 142: Steel Aboveground Tanks for Flammable and Combustible Liquids
- NFPA 30: Flammable and Combustible Liquids Code

RATINGS: All units are rated 0.8 power factor.

**Standby Rating:** The generator can provide power to a variable load for the duration of utility power outage with maintenance intervals carried out as prescribed by manufacturer. Average load factor over 24-hour period of operation shall not exceed 70% for this rating. **Prime Rating:** The generator can provide power to a variable load for unlimited number of hours with maintenance intervals carried out as prescribed by manufacturer. Average load factor over 24-hour period of operation shall not exceed 70% for this rating. Ratings are in accordance with ISO-8528-1. The generator set manufacturer reserves the right to change the design or specification without notice and without any obligation or liability whatsoever.

### Certification

- CE
- CQC
- CSA<sub>C</sub>, CSA<sub>US</sub>, UL (sub-assembly only where applicable)

### SPECIFICATIONS

|                                  |  |                 |      |
|----------------------------------|--|-----------------|------|
| Model                            | PDG100SN-E   |                 |      |
| <b>Alternator</b>                |  |                 |      |
| Make & Model                     | Powercity QYI 274B   |                 |      |
| Frequency                        | Hz   | 50              | 60   |
| Rating (kVA)                     | Prime  | 90              | 100  |
|                                  | Standby  | 100             | 110  |
| Phase                            | 3 – Phase (4 wires)  |                 |      |
| Rated Voltage                    | V  | 200~240/380~480 |      |
| Power Factor                     | 0.8 (Lagging)  |                 |      |
| Voltage Regulation               | %  | +/- 1.5         |      |
| Excitation                       | Brushless rotating exciter with Automatic Voltage Regulator (AVR)  |                 |      |
| Insulation                       | Class H  |                 |      |
| <b>Engine</b>                    |  |                 |      |
| Make & Model                     | Powercity YN4R190-36CR   |                 |      |
| Type                             | Vertical inline, 4 Stroke, 4 air valve, Central Camshaft, Water cooled, Turbo after cooled, Common rail direct injection |                 |      |
| Output Rating                    | Kw/rpm   | 129             | 140  |
| No. of Cylinders – Bore x Stroke | mm   | 4-107x124       |      |
| Piston Displacement              | L  | 4.46            |      |
| Fuel                             | ASTM No. 2 Diesel  |                 |      |
| Fuel Consumption @ 75% Load      | L/h  | 12.3            | 13.7 |
| Lube Oil Capacity                | L  | 9               |      |
| Coolant Capacity                 | L  | 30              |      |
| Battery Capacity                 | V-Ah   | 24V-80Ah        |      |
| Fuel Tank Capacity               | L  | 500             |      |
| <b>Unit</b>                      |  |                 |      |
| Dimensions                       | L, mm  | 2280            |      |
|                                  | W, mm  | 1000            |      |
|                                  | H, mm  | 1700            |      |
| Dry Weight                       | Kg   | 1800            |      |
| <b>Sound Level</b>               |  |                 |      |
| dB(A) @ 7 m.                     |  | 55              | 57   |

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### Control Panel HGM9310CAN



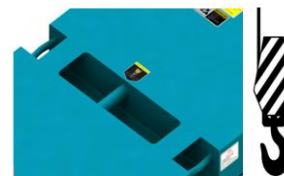
The generator set is operated thru its reliable and intelligent digital controller and displays parameters including: Voltage (V), Current (I), Frequency (Hz), Active Power (kW), Reactive Power (kVar), Power Factor (PF), Accumulated Energy (kWh), Coolant Temperature (°C/°F), Oil Pressure (kPa/PSI/Bar), Fuel Level (%), Engine Speed (RPM), Battery Voltage (V), Charger Voltage (V), Run Hours (max. 999999 hours), Start Times (max. 999999 hours), Warnings and Alarms. With SCADA capability via RS485, RS232 and USB.



**Bosch Electronic Engine Control Unit (ECU)** provides precise engine management, fuel efficiency and lower emission for modern engines.

### Balanced Rigging Point

Equipped with balanced rigging point for lifting the generator set during transport. The generator set can be safely and conveniently lifted by crane or boom truck with proper slings. (Note: Slings not included in the generator unit).



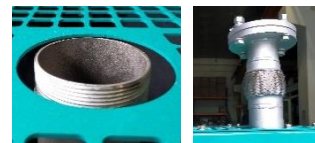
### Emergency Vent

In conjunction with normal vent, emergency vent fitted on base tank helps prevent the tank from becoming over-pressurized and rupturing if tank is exposed or engulfed into massive fire. Emergency vent serves as pressure relief preventing tank explosion in conformance to UL 142 and NFPA 30 requirements on aboveground fuel tanks.



### Threaded exhaust pipe

provisioned for extending exhaust in indoor installation of generator set. Flexible flange adaptor included.



### Manufactured by:

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### Philippine Distributor:

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Made in China

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