

**PGDLS500**



<b>DOOSAN DAEWOO</b> Engine:  <b>DP158LD</b>  Electrical Governor	<b>Alternator:</b> Leroy-somer LSA47.2M7	<b>Generator</b>  <b>Model:</b>	<b>PGPLS500 (Open)</b>
	<b>Optional:</b> Stamford HCI544D  Tide TPA354S3		<b>PGPLS500C (Silent)</b>

<b>60Hz</b> 1800 r.p.m	<b>3 Phase</b> 4 Wires	<b>Power Factor:</b> Cos $\phi = 0.8$	<b>Emissions Certification:</b>	N/A
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<b>RATINGS</b>	<b>Prime Power</b>		<b>Standby Power</b>		<b>Rated Current</b>
	(PRP)		(LTP)		
<b>Voltage (V)</b>	<b>kW</b>	<b>kVA</b>	<b>kW</b>	<b>kVA</b>	<b>Amps</b>
480/277	450	563	500	625	676.6
440/254	450	563	500	625	738.1
<b>416/240</b>	<b>450</b>	<b>563</b>	500	625	<b>780.7</b>
240/138	450	563	500	625	1353.2
220/127	450	563	500	625	1476.2

**RATINGS:**

All three Phase generator sets are rated at 0.8 power factor. All single-phase generator sets are rated at 0.8 or 1.0 power factor. **POWERGEN** reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

**Prime Power:**

Available continuously at variable load in lieu of commercially purchased power for an unlimited number of hours per year in accordance with ISO8528-1, and an overload of 10% permitted for one hour in every twelve hours of operation in accordance with ISO 3046-1.

**Standby Power:**

Emergency Standby Power in variable load applications in accordance with ISO8528-1 in the event of a utility power failure. No overload available for this service as relevant alternators are peak continuous rated at 27°C.

## Standard Features

- ▲ High efficient water cooled diesel engine
- ▲ Brushless alternators (Class H, with AVR.)
- ▲ Heavy duty rubber anti-vibration mountings
- ▲ 12/24V starter batteries and connecting cables
- ▲ Separate engine-drive battery charging alternator
- ▲ Industrial silencer for open type generator sets
- ▲ Residential silencer for open type generator sets
- ▲ Auto start / Digital POWERGEN Easycon Control Panel
- ▲ Radiator with cap and drain point.
- ▲ Fully guarded engine driven fan
- ▲ Circuit Breaker - 3 pole (MCCB)
- ▲ Base fuel tank for 6 - 8 hours running at 100% load
- ▲ Oil filter - Diesel filter - Air filter
- ▲ Fully welded steel baseframe with lifting and fork-lifting facilities.
- ▲ Sound proof & Weather protective enclosures for silent type generator sets.
- ▲ Wiring with IEC standard
- ▲ Factory Test Certificate
- ▲ Operation & Maintenance Manual & Diagrams
- ▲ Worldwide Product / Technical Support

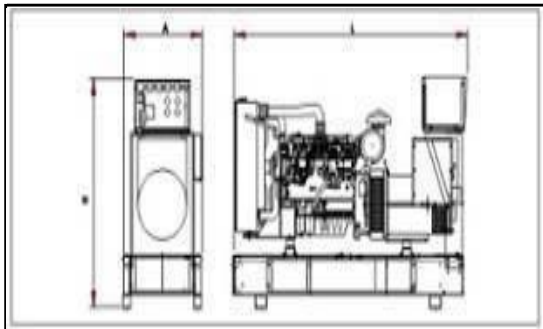
## Optional

- △ Automatic Transfer Switch (ATS)
- △ Water - fuel separator
- △ Water heater for severe cold weather
- △ Lub-oil heater for severe cold weather
- △ 50°C-60°C Radiator
- △ Dual wall fuel tank base
- △ Fuel level sensor
- △ Maintenance free battery
- △ Additional **CE Features** Selection
- △ Extra air filters for time-maintenance
- △ Extra diesel filters for time-maintenance
- △ Extra oil filters for time-maintenance
- △ Separated standing fuel tank
- △ Low coolant level sensor
- △ Full range of attachments and options available for alternator

## Overall Dimensions (mm) & Weight (kg)

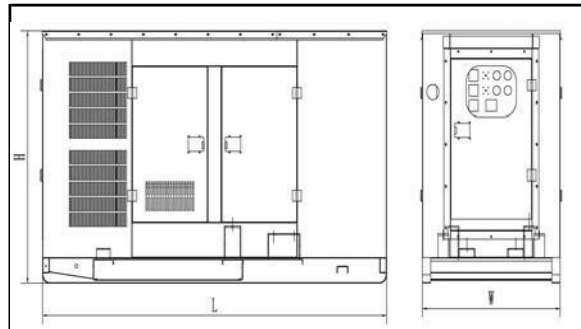
### Open Type

**Length:**  
3150  
**Width:**  
1400  
**Height:**  
1950  
**Weight:**  
3100



### Silent Type

**Length:**  
4600  
**Width:**  
1600  
**Height:**  
2200  
**Weight:**  
5500



Dimension and design are subject to change without notice.

## Warranty

The goods of POWERGEN System are under warranty against defects in materials and workmanship for a period of 12 months or 1000 hours whichever comes first from the date of delivery to the end user (except the damageable spare parts of genset caused by incorrect man-made operation), and that the aforementioned warranty for the same token is back up by the engine & alternator manufactures and their global distributors.

## Engine Specification

### 60HZ

<b>General Performance</b>		<b>Lubrication System</b>	
Manufacture	DOOSAN DAEWOO	Oil Pan Capacity (High - Low)	35 - 28 Litres
Engine Model	<b>DP158LD</b>	Lubrication Method	Fully Forced Pressure Feed Type
Engine Type	4 cycle, V-type, 10-cylinder	Oil Pump	Gear Type Driven by Crankshaft
Engine Speed	1800 r.p.m	Oil Filter	Full Flow, Cartridge Type
Base Output Power	497kW/667Hp	<b>Fuel System</b>	
Standby Power	540kW/724Hp	Type Injection System	Direct Injection
Governor Type	Electronic	Fuel Consumption at 100% Standby power	144.6 Litres/hour
Air Intake Way	Turbocharged & Intercooled (air to air)	Fuel Consumption at 100% Prime power	128.2 Litres/hour
Displacement	18.273L	Fuel Consumption at 75% Prime power	93.4 Litres/hour
Cylinder Bore * Stroke	128mm × 142mm	Fuel Consumption at 50% Prime power	63.3 Litres/hour
NO. of Cylinders	10	Fuel Consumption at 25% Prime power	34.9 Litres/hour
Compression Ratio	15:1	Fuel Tank Capacity	
Compression Pressure	Above 28kg/cm <sup>2</sup> at 200rpm	- Open Type Genset	4-6 Hours at Full Load
Rotation	Counter clockwise viewed from flywheel	- Silent Type Gensets	770Litres
Firing order	1-6-5-10-2-7-3-8-4-9	<b>Cooling System</b>	
Injection Timing	16° BTDC	Water Flow	410Liters/min
Max. permissible altitude	1500m	Coolant Capacity - Engine Only	21 Litres
<b>Exhaust System</b>		Standard Thermostat (Modulating) Range	71-85°C
Exhaust Gas Flow	114.1 m <sup>3</sup> /min	Pressure System	Max. 0.5 kg/cm <sup>2</sup>
Exhaust Gas Temperature	606 °C	Cooling Method	Fresh Water Forced Circulation
Maximum Back Pressure	600 mmH <sub>2</sub> O	<b>Electric System</b>	
Exhaust Pipe Size	N/A	Electrical System Voltage	24V
<b>Air Intake System</b>		Battery	Maintenance-free
Recommended intake piping size	N/A	Connecting Cables	Available
Maximum Intake Air Restriction		<b>Thermal</b>	
- Initial	220 mmH <sub>2</sub> O	Radiated Heat to Ambient	N/A
- Final	635 mmH <sub>2</sub> O	Heat Rejection to Coolant	50.2 kcal/sec
		Heat Rejection to CAC	23.3 kcal/sec

## Alternator Specification

<b>General Data</b>		<b>60HZ/1800R.P.M</b>	
Manufacture / Brand	Leroy-somer	Prime Output Power	
488kW/610kVA Model		<b>LSA47.2M7</b>	Standby Output Power
534kW/668kVA AVR Model		R250	Insulation class
H Coupling / Bearing	Direct / Single Bearing	Voltage regulation	± 0,5
% Phase	3 Phase	Total harmonic (*) TGH / THC no load	<1.5%-on
load <2% Power Factor	Cos φ = 0.8	Wave form : NEMA = TIF - (*)	
< 50		Wave form : I.E.C. = THF - (*)	< 2 %
Winding pitch - Code	2/3 - (N° 6)	Altitude	≤ 1000 m
Drip Proof	IP 23	Overspeed	2250 min -1
Excitation	Shunt		

**POWERGEN Easycon Control Systems** “Let your Generator always in Control”

**POWERGEN comprehensive Easycon range control panels are compact, versatile and easy to use.**

Easycon 2.0L/H (GU601A / Deepsea DSE3110) panel is a key-start auto control panel, it’s a basic control panel fits for generators up to 100kVA to provide basic operating parameters display and protection.



Easycon 3.0 L/H (GU641B / Deepsea DSE7210) panel is an auto & digital control panel, it’s an entry level control panel which provides full power monitoring and protection facilities. All operating parameters are with LCD display. (Auto Main Failure Version DSE7220 also Available.)



Easycon 4.0L/H (GU620A / Deepsea DSE7310) panel is an auto & digital & Remote control panel which includes all the features of Easycon 3.0, and plus data communication of full telemetry via the RS232/RS485 interfaces, CANBus is also included. (Auto Main Failure Version DSE7320 also Available.)



**Specifications**

<b>4 . 0 L / H</b>	<b>3 . 0 L / H</b>	<b>2 . 0 L / H</b>	Over Speed pre-alarm & shutdown - Low Oil Pressure Pre-Alarm & shutdown - High Water Temp. Pre-alarm & shutdown - Volts, Current, Frequency, Rpm (Instruments)- Fuel Sensor as optional - AMF Module as optional - Digital Control Panel - Overcurrent Pre-alarm - Overcurrent Shutdown - Prefix Start, Service Indicate, Fault History for Deepsea Module. Remote Start (Data communication of full telemetry via the RS232/RS485) -	Auto Start - Oil Pressure Genset Running Hours Battery Voltage and Charging Switch Opening as Optional AMF Module as optional Power Factor CANBus -
		<b>Options</b>		

Easycon 5.0H (Deepsea DSE8610) panel fits for Gen-Gen automatic Synchronising and load sharing.

Easycon 6.0H (Deepsea DSE8620) panel fits for Single Gen - Mains automatic Synchronising.


Deepsea DSE7560 Synchronising Controller for Multi gen – Mains Synchronising. This is a separate control unit which enables multiple Easycon 5.0 equipped Gens to be synchronised with the Mains supply.

**(For details specifications of Control Panels, please consult our sale department.)**

The generators are supplied together with a circuit breaker that permits a thermal protection against overloads and magnetic protection against short-circuit.

**Automatic Transfer Switch**

*A.T.S - 4 Poles*

<p>POWERGEN offers not only a changeover switch but also an integrated mains detection and switch system for your 24 Hour Power Protection. The system enables automatic start-up and operation of the generating set in the event of a mains power failure, overvoltage or loss of phase; and also mains automatic re-transfer once it come back.</p> <p>ATS: Automatically transfer and re-transfer load from main power to gen-power without operator intervention. (Both Automatic and manual operation.)</p> <p><b>Please consult our sales department for specifications.</b></p>	
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**Enclosure / Canopy**

*(Sound-attenuated & Weather Protective)*

**“Ensure a quieter life with our sound attenuation system.”**

**Features:**

**Extremely Rugged & Highly Corrosion Resistant Construction**

- ▲ Body made from 2.0mm sheet steel components with powder coating
- ▲ 8-12 hours built-in fuel tank integrated into the skid-mount base
- ▲ Excellent design and craftsmanship
- ▲ Zinc alloy with black powder coated or Bright polished stainless steel hinges tested and proven to withstand corrosive conditions.
- ▲ Compact structure and longer service life

**Easy Commissioning and Maintenance**

- ▲ Separate & Standing control cabinet at one side, quick fix electrical power connections.
- ▲ Lube oil drain and radiator drain
- ▲ Side doors allowing 180° opening rotation
- ▲ Radiator fill access through cover in canopy roof.
- ▲ Sockets as Optional

**Security and Safety**

- ▲ Earth leakage protection
- ▲ 40-50mm non-inflammable sponge inside
- ▲ Control panel viewing window in a lockable access door
- ▲ Emergency stop button mounted on canopy exterior
- ▲ Fuel fill and battery can only be reached via lockable access doors
- ▲ Exhaust silencing system enclosed for operator safety
- ▲ Excellent cooling system to avoid high water temp., reliable operation under harshest conditions.
- ▲ (Ambient temp. upto 40-52°C and altitudes up to 1000M)

**Transportability**

- ▲ Lifting points on baseframe
- ▲ Lifting shelf as optional

**Quiet (Reduce Sound and Vibration)**

**Noice Level:**

77-88dBA at 1m & 67-78dBA at 7m