# DIESEL GENSET MODEL
# SGP 1850 PR


| Rating | Voltage | Frequency | Speed |
|---|---|---|---|
| 1850 kVA<br>1480 kW | 415 Volts | 50 Hz | 1500 RPM |

Optional equipment and finishing shown. Standard may vary.

## PRODUCT HIGHLIGHTS

### ▶ Engine

- Fast load response
- Stable frequency
- Low vibrations and structure borne noise level
- Competitive fuel and lube oil consumption
- High power to weight ratio
- Proven low life cycle cost

### ▶ Alternator

- Brushless type, screen protected, self-excited alternator complying to IS 4722/IEC 60034 - 1
- Excellent motor start capability
- Excellent alternator efficiency across the load range
- Compact design with sealed bearings for longer life and lower maintenance
- Optimised engine compatibility

### ▶ D. G. Package

- Highly optimised and efficient package design
- Excellent performance under most demanding environmental conditions
- Near zero down time for continuous power supply
- Sturdy base frame made from folded sheet metal for increased strength
- Efficient anti-vibration mounts
- Stringent shop floor testing to ensure class leading, hassle-free performance
- Testing carried out using state-of-the-art PLC based, resistive load bank

### ▶ Product Support

- Seamless 24 x 7Service support with **toll free number 1800 3000 7666**
- Best in class product support with PAN India Presence
- Highly Energetic team with immense experience in troubleshooting.

# APPLICATION DATA

## ▶ Engine

| | |
|---|---|
| Engine Make & Model | Perkins-4016-61TRG1 |
| Base Frame | SGPL |
| Frequency | 50 Hz |
| Engine Speed | 1500 RPM |
| Fuel Tank Capacity | 990 Liters |
| Rated Current | 2572Amps |
| No. of Cylinders | 16 |
| Type of Construction | Vee |
| Displacement | 61.12 L |
| Bore / Stroke | 160X190 mm |
| Gross Engine Power Output | 2210 BHP |
| Rated Speed | 1500 RPM |
| Aspiration | Turbocharged |
| Governor Type & Class | Electronic |

## ▶ Cooling System

| | |
|---|---|
| Method of Cooling | Radiator |
| Qty of Coolant (Engine + Radiator) | 215 L |
| Radiator Fan Power | 90 kW |
| Radiator Cooling Airflow | 76279 CFM |

## ▶ Fuel System

| | |
|---|---|
| Make/Type of Injection System | Direct injection |
| Recommended Fuel | HSD |
| Fuel Filter Type | Spin On Paper Element |

Specific Fuel Consumption : L/hr

| 75% Load | 100% Load |
|---|---|
| 298.40 | 375.56 |

*Note: Specific gravity of fuel considered - 850 gms/Litre with +3% tolerance

## ▶ Alternator

| | |
|---|---|
| Make | Leroy Somer |
| Frame | LSC74L |
| Power Factor | 0.8 |
| No. of Phase | 3 |
| Frequency | 50 HZ |
| Rated Voltage | 415V ±5% |
| Voltage Regulation | ±1% |
| Excitation System | Self-Excited Self-Regulated Brushless |
| AVR Type | R 450 |

## ▶ Induction System

| | |
|---|---|
| Air Filter Type | Medium Duty Axial Flow |
| Air Intake Restriction | 12-37 mbar |

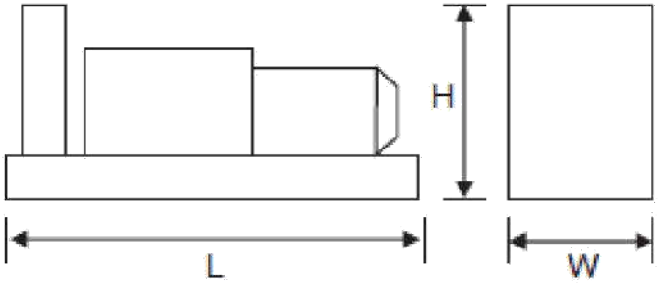
## ▶ Lubrication System

| | |
|---|---|
| Recommended Lube Oil | API-CG15W/40 |
| Lube Oil Consumption | 0.1% Of SFC |
| Lube Oil Filter Type | Paper element |
| Lube Oil System Capacity (With Filter) : | 213 L |

## ▶ Exhaust System

| | |
|---|---|
| Silencer Type | Resdential |
| Number of Silencers | 2 No. |
| Maximum Allowable Back Pressure | 40 mbar |
| Exhaust Gas Temperature | 400 Deg C |

## Dimensions & Weights




Drawing above for reference purpose only. Dimensions may vary with other voltages. Not to be used for installation purpose.

| | | | | | |
|---|---|---|---|---|---|
| Length = L | mm | 6960 | Wet Weight (Approx.) | kg | 14000 |
| Width = w | mm | 2690 | | | |
| Height = H | mm | 3605 | | | |

### Acoustic Enclosure Dimensions

| | | | | | |
|---|---|---|---|---|---|
| Length = L | mm | 12000 | Wet Weight (Approx.) | kg | 23500 |
| Width = w | mm | 3500 | | | |
| Height = H | mm | 4250 | | | |

## Output Ratings

Generating Set Rating @ 415V - 50 Hz | 1850 KVA | 1480 kW

Note: Ratings at 0.8 power factor.

Definitions: Prime Rating

This rating is applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power for unlimited number of hours with an average load factor of 80%

Fuel Consumption Data:

Fuel consumption data with diesel fuel of specific gravity 0.85 and conforming to IS: 1460

## Standard Features

### ▶ Perkins Range

- Sterling provides a range of Perkins engine powered generating sets which are recognised for reliability.
- Global technology available in India.
- Most energy efficient D. G. set in its own rating.
- Microprocessor based control panels.
- Wider maintenance intervals.
- Pre tested at factory with PLC test bench.
- Well experienced and trained engineers for 24 x 7 after sales support.
- Designed to meet the latest environmental norms and approved by CPCB nodal agency.

# Standard Control Panel

SG 2010:

Standard Supply

Operating Features

Microprocessor based digital controller
Accurate LCD display
Local Start/Stop
Auto Main Fail Detection & Mains Monitoring
Remote Start/Stop
Generator breaker control
Easily Accessible through Fascia
Engine Protection/Faults Moni through CAN
Flexibility for Selecting Manual, AMF Operations

Metering

Engine Parameters:

Engine Speed
Lube Oil pressure
Coolant temperature
Engine Running Hour
Engine Battery voltage
Running status
Fuel level in Percentage
Event Log with date and time

Electrical Parameter Generator

Generator Voltage (Ph-Ph)
Generator Voltage (Ph-N)
Current -(R,Y,B) Generator
apparent power (kVA)
Generator active power(kW)
Generator reactive power
(kVAr) Generator Power Factor
Generator Frequency (Hz)
Cumulative Power Consumption in kWh
Cumulative Power Consumption in kVAh
Cumulative Power Consumption in kVArh
Mains Voltage (Ph-Ph)

Monitoring

Generator Breaker Status
Generator Healthy Status
Mains Healthy Status
Mains Breaker Status

Engine

High Water Temperature
Low Coolant Level
Engine Overspeed
Low oil pressure
Low Fuel Level

Electrical

Generator under Voltage (ANSI-27)
Generator over Voltage (ANSI-59)
Generator under Frequency (ANSI-81L)
Generator over Frequency (ANSI-81H)
Generator Over Current (ANSI-51)
Generator kW Overload (ANSI-32P)
Control Supply under Voltage
Control Supply over Voltage

Breaker/Contactor

| | |
|---|---|
| DG Breaker | No |
| Mains Breaker | No |

Communication

RS485-Modbus Communication Available for BMS/PLC

Panel location

Right side of the canopy viewing from Alternator end.

# General Information

Documentation

A full set of operation and maintenance manuals and circuit wiring diagrams.

Warranty

Standard 36 months warranty after shipment