

WPG1650*7

DIESEL GENERATING SET

GENERATING SET RATINGS

50Hz – 1500rpm @ 0.8p.f

PRP			ESP	
Voltage	kVA	kWe	kVA	kWe
415/240	1500	1200	1650	1320
400/230	1500	1200	1650	1320
380/220	1500	1200	1650	1320

PRODUCT FEATURES

Engine and block

- Vermicular graphite cast iron cylinder block and cylinder head
- Alloyed cast iron, wet cylinder liners with fire ring on the top
- Separate cylinder head with 4 valves, top-down cooling
- Hydraulic bolt for both the cylinder head and bearing cap
- Hardened steel forged crankshaft with induction hardened journals, crankpins and radius
- Monoblock piston with PCJ

Cooling System

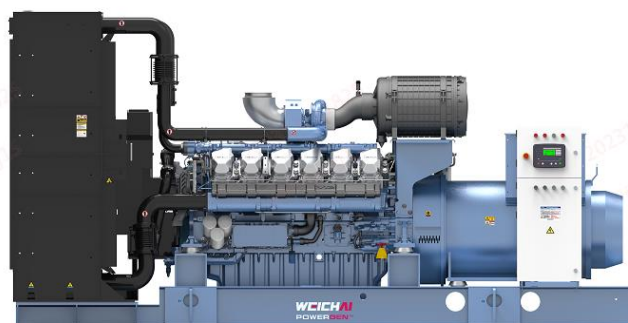
- Radiator and hoses supplied separately
- Thermostatically-controlled system with belt driven coolant pump and pusher fan

Fuel System

- High pressure Common Rail injection system, for engines with ECU Fine filter

Lubrication System

- Fin oil cooler, 6 oil filters
- Bypass oil and oil thermostat to keep the oil temperature steady



Air Intake

- 2 single-stage turbochargers
- Air filters with restriction indicator

Electrical System

- Each starting system comes with 1 x 24 Vdc electric starter motors and 1 x battery charging alternator
- LOP + HWT sensors

Exhaust System

- Exhaust manifold and turbocharger shield for heat isolating

Alternator

- Brushless, 4 Pole, IP23 drip-proof revolving field design built with Class H insulation and Class H temperature rise
- Low reactance with 2/3 pitch windings on the stator
- Sustained overcurrent >300% in 10 sec
- Direct drive centrifugal blower fan cooling

Control module

- DSE control module is ideal for a wide control range to manage, monitor, and diagnose quickly and easily.
- Display status message Provide protection Auto shutdown at fault detection

GENERATOR SET SPECIFICATIONS	
Governor and regulation class	In accordance to ISO 8528-5 Class G3 performance
Phase number and connection	3 phase, 4 wires, Y-type
Cooling method	Closed looped water-cooled
Starting method	DC 24V Electric starter
Steady-state voltage deviation	$\leq \pm 1\%$
Steady-state frequency band	$\leq 0.5\%$

ENGINE	
Brand / Model	Baudouin / 12M33G1650/5
Gross Power	ESP - 1450 / PRP -1350
Cylinder / Type / Aspiration	12 / V- Type / Turbocharged and intercooled
Bore x Stroke	mm 150 x 185
Displacement	L 39.2
Compression ratio	15:1
Brake Mean Effective Pressure	kPa ESP – 2959

COOLING SYSTEM	
Type of Coolant	Liquid(water + 50% antifreeze)
Total Cooling System Capacity (with Radiator)	L 303
Max coolant temperature – shutdown	°C 108
Cooling Fan Airflow	m3/min 1680

LUBRICATION SYSTEM	
Operating Temperature range before Engine	°C 78 -105
Oil consumption	g/kW.hr ≤ 0.6
Total lub oil capacity (including filters)	L 160
Type of lub oil filter	Spin-on full flow filter

FUEL SYSTEM	
Type of fuel filter	Spin-on fuel flow filter
Min. internal diameter of the supply pipe	mm 19
Min. internal diameter of the return pipe	mm 19
Max fuel return restriction	Bar 0.2
Max. fuel inlet temperature	°C 50
Fuel supply flow	L/hr 1900
Fuel Consumption (Tolerance +3%)	
Rating	gr/kWh L/hr
100%ESP	204.9 354.2
100%PRP	201.6 324
75%PRP	194.3 234.2
50%PRP	194.3 156.1
25%PRP	209 84

EXHAUST SYSTEM

Exhaust Gas temperature after the turbocharger	°C	550
Exhaust Gas flow	m3/min	ESP – 350.4 PRP – 318.5
Max Exhaust back pressure	mBar	75

ALTERNATOR

Brand / Model	Leroy Somer / LSA 50.2 L8
Rated Current	1968A
Coupling / No. of Bearing	Direct / Single
Winding Pitch	2/3
Cooling type	Air
Voltage regulation method	AVR D350
Winding temperature sensor	/
Bearing temperature sensor	/
Anti-condensation heater voltage	AC230V
Insurance	Class H
Temperature rise	Class H
Protection Grade	IP23
Efficiency at 0.8p.f.@100% load	95.4%

CONTROL MODULE

The control module is an easy to use multi-generator load Share system

DSE control module is ideal for a wide variety of demanding load share applications

Direct USB connection to PC.

All communication ports capable of being active at the same time

Sequential set start /Automatic hours run balancing.

Hours counter provides accurate information for monitoring and maintenance.



STANDARD CONDITIONS

Standard operating environment: ambient temperature is 5°C~40°C, the altitude is less than 1000m, the relative humidity is less than 90%(25°C), and there is no dust, sand dust, salt fog, mold, condensation environment, etc.

If the operating environment exceeds the above requirements, please contact the factory and consult.

Ambient adaptability protection measures for alternators

Ambient type	Ambient description	Measures of protection
General Ambient	The air is clean and dry, the humidity is $\leq 90\%$, and the distance from the coastline is $\geq 30\text{km}$; Non-industrial ambient (chemical splash, acid-base steam, corrosive environment, etc.)	standard configuration
Humid Ambient	The humidity above 90% or condensation occurs	Anti-condensation heating
Salt spray Ambient	Salt fog crystals are produced in seaside ($< 30\text{km}$ from the coastline) or island Ambient	Anti-condensation heating; Spray three-proof paint on winding surface; Spraying epoxy protection for parts and structures.
Dust Ambient	The ambient where mining, building construction, desert Gobi or sandstorm occur	Improve the protection level of the alternator to IP44; Install filters.

If you need to use protective measures beyond the standard, please contact the factory and consult.

Special working condition

If the operating conditions of the generator meet the following conditions, please contact the factory and consult.

- Multistage parallel operation
- Grid-connected operation
- As the main power supply, it runs continuously for a long time
- The load includes a high power motor type load
- Capacitive load
- Special ambient such as high temperature, cold and plateau

Ratings definitions

Emergency standby power (ESP):

Emergency Standby Power is the maximum power available for a varying load for the duration of a main power network failure. The average load factor over 24 hours of operation should not exceed 70% of the engine's ESP power rating.

Typical operational hours of the engine is 200 hours per year, with a maximum usage of 500 hours per year. This includes an annual maximum of 25 hours per year at the ESP power rating. No overload capability is allowed. The engine is not to be used for sustained utility paralleling applications.

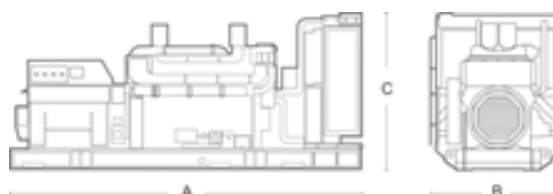
Prime power (PRP):

Prime Power is the maximum power available for unlimited hours of usage in a variable load application. The average load factor should not exceed 70% of the engine's PRP power rating during any 24 hour period. An overload capability of 10% is available, however, this is limited to 1 hour within every 12 hour period.

Data Center power (DCP):

Data Center Power is the maximum power which an engine is capable of delivering while supplying a variable or continuous load and during unlimited run hours.

Open genset



Silence genset



This outline drawing is to provide representative configuration details for Model series only.
See respective model data sheet for specific model outline drawing number.

Do not use for installation design

Dimension and Weight

Structure	Model	Dim "A" mm	Dim "B" mm	Dim "C" mm	Dry wt.* kg
Open	WPG1650B7	4837	2207	2476	9500
Silence	WPG1650C7	6058	2438	2896	15150

* Note: Weights represent a set with standard features. See outline drawings for weights of other configurations.

Codes and standards

ISO 9001	This generator set is designed and manufactured in facilities certified to ISO 9001.	ISO 8528	This generator set has been designed to comply with ISO 8528 regulation.
CE	The CE marking is only valid when equipment is used in a fixed installation application. Material compliance declaration is available upon request.		

For more information contact your local Weichai distributor or visit www.weichai.com

Availability Details

- Air intake system: Air filter;
- Cooling system: Closed-loop cooling radiator;
- Fume extraction system: Expansion pipe, muffler and mating flange;
- Fuel system: Inlet return port connector, fuel filter;
- Lubrication system: Oil pan, oil filter;
- Vibration damping system: Rubber shock absorber;
- Electrical system: Control screen and switch cabinet;
- Silent System: Silencing box/container (silent unit configuration)

Note 1: Silent generator sets (L Series, C Series) can be used directly after installation on the ground, without the need for separate installation accessories, and open generator sets require appropriate installation accessories to install fume extraction systems, etc.

Note 2: The factory does not provide on-site installation accessories such as exhaust straight pipe, elbow, radiator shroud, etc. to the unit itself. The buyer needs to consider the installation of the accessories and the installation project in advance;