# JCB ENERGY ELECTRIC POWER INDUSTRY

TAT AL

JUENERGY

**MADRID / SPAIN** 





231 / 400 V – 50 Hz & 277 / 480 V – 60 Hz







### **GENERATOR GENERAL INFORMATION**

GENERATOR	FREQUENCY	VOLTAGE	POWER FACTOR	SPEED	DIESEL ENGI	NE		ALTERN	ATOR		TYPE OF	GENER	ATOR O	UTPUT
Model	Hz	V	Cos Q	Rpm	Brand	Model	Series	Brand	Model	Series	Operation	kVA	kW	А
								U			Standby	490,0	392,0	708,1
JDD 490	50	231/400	0.8	1500						315MXA 315M	Prime	445,5	356,4	643,7
					DOOSAN	P158LE	Р	<u> </u>			Continuous	311,8	249,5	450,6
					2003/11	TISOLL	•	i Ti			Standby	540,0	432,0	780,0
JDD 540	60	277/480	0.8	1800				ିର			Prime	490,9	392,7	709,4
								·			Continuous	343,6	274,9	496,6
<ul> <li>Diesel Engines with Advanced Technology and Quality</li> <li>Alternators with Advanced Technology and Quality</li> <li>Low Exhaust Emission</li> <li>Control Panel Suitable for Flexible Application</li> <li>Patented Compact Designed and Sound proof Canopy</li> <li>Low Operating Cost, Suitable for Heavy-Duty</li> <li>Durability, Low Noise Level</li> </ul>					<ul> <li>Fue</li> <li>Low</li> <li>Glol</li> <li>Wid</li> <li>High</li> </ul>	l Filter w 7 Fuel Cor bal Techr le Range n Quality	ith Wate nsumptio nical Serv of Afforo and Reli	r and Par on, Low O vice and N dable Spa able Tech	ticle Sepa il Consum Aaintenar re Parts nology					

### **STAND BY POWER RATING – (ESP):**

ESP is applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. Under no condition is an engine allowed to operate in parallel with the public utility at the Stand by Power rating. This rating should be applied where reliable utility power is available. A Stand By rated engine should be sized for a maximum of an 70% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Stand by Power rating. Stand By ratings should never be applied except in true emergency power outages. Negotiated power outages contracted with a utility company are not considered an emergency.

#### **PRIME POWER RATING - (PRP):**

Applicable for supplying electric power in lieu of commercially purchased power. Prime Power applications must be in the form of one of the following two categories:

#### UNLIMITED TIME RUNNING PRIME POWER (ULTP):

PRP (Prime Power) is available for an unlimited number of hours per year in a variable load application. Variable load should not exceed a 70% average of the Prime Power rating during any operating period of 250 hours. The total operating time at 100% Prime Power shall not exceed 500 hours per year. A 10% overload capability is available for a period of 1 hour within a 12-hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

#### LIMITED TIME RUNNING PRIME POWER (LTP):

LTP (Limited Time Prime Power) is available for a limited number of hours in a no variable load application. It is intended for use in situations where power outages are contracted, such as in utility power curtailment. Engines may be operated in parallel to the public utility up to 750 hours per year at power levels never to exceed the Prime Power rating. The customer should be aware, however, that the life of any engine will be reduced by this constant high load operation. Any operation

### CONTINUOUS POWER RATING (COP):

COP is the power that the engine can continue to use under the prescribed speed and the specified environment condition in the normal maintenance period stipulated in the manufacturing plant. And Continuous Power is applicable for supplying utility power at a constant 100% load for an unlimited number of hours per year. No overload capability is available for this rating.



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# PAY ATTENTION TO THE POINTS BELOW IN PICKING AND USING THE GENERATOR

\* Generators can work on Continuous Power at 70% of Prime power value if only all maintenances are done on time with original spare parts and high-quality oils that manufacturer advice.

\* Generators should not operate below 50% of Prime Power value. In such a case, the engine will burn excessive oil and eventually have irreparable damage.

\* If your need is 1000 kVA or above, you should prefer Synchronic Systems with 2-3 generators with failure back up and simultaneous aging.

\* These points will provide advantage for you with purchasing and operating the generator.

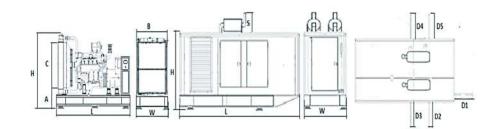
## GENERATOR DIMENSIONS AND TECHNICAL DRAWINGS





VALUES		OPEN TYPE GENERATOR	CANOPY TYPE GENERATOR
WIDTH	mm	1400	1646
LENGTH	mm	3311	4632
HEIGHT	mm	1980	2641
WEIGHT (NET)	Kg	3386	4240
FUEL TANK CAPACITY	L	1066	400

SYMBOL	OPEN	CANOPY
L	3311	4632
W	1400	1646
н	1980	2000
S		641
Α	560	
В	1200	
С	1200	
D1		1002
D2		800
D3		800
D4		800
D5		800



# **FUEL CONSUMPTION**

PERCENT OF PRIME POWER	1500 rpm		1800 rpm		
	g/kWh	l/hr	g/kWh	l/hr	
110 %	200,0	98,0	200,0	108,4	
100 %	195,0	83,8	195,0	92,8	
75 %	197,0	63,5	197,0	70,3	
50 %	212,0	45,5	212,0	50,4	





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### **DIESEL ENGINE MAIN TECHNICAL PARAMETERS**

General Engine Data								
Engine Model		P158LE	P158LE					
Engine Type	4-Cycle, V-Type, 8	4-Cycle, V-Type, 8-Cylinder Diesel, Water Cooled, Turbo Charged & Intercooled						
Bore x Stroke		128 x 142 mm						
Displacement		14.618 liters						
Compression Ratio		15: 1						
Rotation		Counter clockwise	e viewed from Flyw	heel				
Firing Order		1-5-7-2-6-3-4-8						
Fuel System		Bosch in-line "P" 1	type					
Governor		Electronic						
Governor Class		G3						
Cooling System								
Total System Coolant Capacity		20L						
Thermostat Operation Range		80~90°C						
Maximum Temperature to Engine		105°C						
Minimum Temperature to Engine		70°C	70°C					
Coolant Temperature Alarm			105°C					
Limits of the Environment Temper	rature		52°C					
Lubrication System		01.0						
Lubrication Oil Capacity		21L						
Lubrication Oil Pressure		min 250 kPa (50H	min 250 kPa (50Hz) /min 300 kPa (60Hz)					
Lubrication Oil Temperature		At normal operati	At normal operation 105°C, Maximum 125°C					
Lubrication Oil Consumption as %	Fuel Consumption	0.1 % maximum	0.1 % maximum					
Pressure of Oil Relief Valve Openi	ng	550 ± 50 kPa	550 ± 50 kPa					
Electrical System								
Alternator		28.5V x 45A alteri	28.5V x 45A alternator					
Starter Motor		24V x 7.0 kW	24V x 7.0 kW					
Fan								
Diameter		915mm	915mm					
Number Of Blade		7	7					
Material		Plastic						
	DOOSAN II	NFRACORE GENSET	ENGINE					
Engine Model	rpm	Gross Engine Output(kWm) Typical Generator Output						
		Stand-by	Prime	Stand-by	Prime			
P158LE	1500	414	363	486	427			
	1800	458	402	538	472			







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### JCB ALTERNATOR TECHNICAL PARAMETERS AND SPECIFICATIONS



## ALTERNATOR TECHNICAL PARAMETERS

Insulation Class		н	Field Control System		Self-Excited
Winding Pitch		2/3 - (N° 6)	A.V.R. Model	Standard	SX440
Wires		12	Voltage Regulation	%	± 1
Protection		IP 23	Sustained Short-Circuit Current	10 sec	300% (3 IN)
Altitude	m	1000	Total Harmonic (*) TGH / THC	%	< 4
Overspeed	rpm	2250	Wave Form: NEMA = TIF - (*)		< 50
Air Flow	m³/sec.	0.8	Wave Form: I.E.C. = THF - (*)	%	< 2
Bearing Drive	N/A	-	Bearing Non-Drive	Bearing	6314-2RZ
Rotor Winding	100%	Copper	Stator Winding	100%	Copper

### 50 HZ / 231-400V COSQ 0,8 / 1500 RPM

STANDARD USING ALTERNATOR				OPTIONAL USING ALTERNATOR					
BRAND/MODEL	<b>JUENERGY</b>	JCB 315XA		LEROY-SOMER		TAL0473B	STAMFORD	S4L1D-0	54
DUTY				Continuous			St	and By	
AMBIENT	C°			40°C				27°C	
CLASS / TEMP. RISE	C°			H/ 125° K			H/	′ 163° K	
SERIES STAR	V	380/220	400/231	415/240	1 Phase	380/220	400/231	415/240	1 Phase
PARALLEL STAR	V	190/110	200/115	208/120	220	190/110	200/115	208/120	220
SERIES DELTA	V	220	230	240	230	220	230	240	230
OUTPUT POWER	kVA	468,0	468,0	486,0	-	515,0	515,0	534,0	-
OUTPUT POWER	kW	374,4	374,4	388,8	-	412,0	412,0	427,2	-

60 HZ / 277-480V COSQ 0,8 / 1800 RPM

STANDARD USING ALTERNATOR					OPTIONAL USING ALTERNATOR					
BRAND/MODEL		JCB 315M		LERO	Y-SOMER	TAL0473A	STAN	FORD	S4L1D-F4	
DUTY				Continuous				Stand	Ву	
AMBIENT	C°			40°C				27°C		
CLASS / TEMP. RISE	C°			H / 125° K				H/163	°K	
SERIES STAR	V	416/240	440/254	480/277	1 Phase	416/240	440/254	480/27	7 1 Phase	
PARALLEL STAR	V	208/120	220/127	240/138	-	208/120	220/127	240/13	- 88	
SERIES DELTA	V	240	254	277	240	240	254	277	240	
OUTPUT POWER	kVA	476,0	501,0	527,0	-	524,0	551,0	580,0	-	
OUTPUT POWER	kW	380,8	400,8	421,6	-	419,2	440,8	464,0	-	





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### **CONTROL MODULE ALERTS**

Emergency Stop Malfunction High Generator Frequency Low Generator frequency, Low Load Over Current, Unbalanced Current Low Generator Voltage High generator Frequency Phase sequence error Overload, Heat Sensor Broken Low Water Level (Optional) Low Oil Pressure, Reverse Power Low Water Temperature

### Start Error, Stop Error Magnetic Pickup Error Charge Alternator Error Unbalanced Load Maintenance Time Alarm Low Speed, High Speed Broken Oil Sensor Cable High Oil Temperature (Optional) Low Fuel Level (Optional), High Battery Voltage Low Battery Voltage, High Water Temperature Electronic Can bus Errors (ECU)

# CONTROL PANEL SPECIFICATIONS



- Powder Painted Steel Panel with
- Lockable Door
   ATS (Automatic Transfe
- Optional
- Control Module
- Battery Charger
- Emergency Stop Button

- Terminal Blocks
- Load Output Terminal
- System Protection MSBs
- Circuit Breaker-Optional
- LCD Screen
- Control Relays
- Backlit, 128x64 Pixels

### **CONTROL MODULE TECHNICAL PARAMETERS**

Brand		Brand	Trans-MIDIAMF.232.GP
Dimensions	120mmx94mm.	Protection Class	IP65 From the Front
Weight	260 gr.	Environmental Conditions	2000 meters above sea level
Ambient Humidity	Max. %90.	Ambient Temperature	-20°C to +70°C
DC Battery Supply Voltage	8 - 32 V	Battery Voltage Measurement	8 – 32 V
Network Frequency	5 - 99,9 Hz	Mains Voltage Measurement	3 - 300 V phase -Neutral, 5 - 99,9 Hz
Generator Voltage Measurement	3 - 300 V	Generator Frequency	5 - 99,9 Hz
Current Transformer Secondary	5A	Working Period	Continuous
Charge Alternator Voltage Measurement	8 - 32 V	Charge Alternator Excitation	210mA &12V, 105mA &24V Nominal 2.5W
Communication Interface	RS-232	Analog Sender Measurement	0 - 1300ohm
Generator Contactor Relay Output	5A & 250V	Mains Contactor Relay Output	5A & 250V
Solenoid Transistor Outputs	1A with DC Supply	Start Transistor Outputs	1A with DC Supply
Configurable-3 Transistor Outputs	1A with DC Supply	Configurable-4 Transistor Outputs	1A with DC Supply



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## **CONTROL MODULE FUNCTION**

Mains Voltage Level Control	Generator Voltage Level Control	3 Phase Generator Protections	3 Phase AMF Function	Alarm Horn
Network Frequency Level	Generator Frequency level	- High / Low Voltage	- High / Low Frequency	Heater Tube
Control	Control			Thermostat Control
Engine Operating Option Control	Generator Current Level Control	- High / Low Frequency	- High / Low Voltage	Modbus and SNMP
Engine Stop Option Control	Generator Powder Level Control	<ul> <li>Current / Voltage</li> <li>Asymmetry</li> </ul>	- High / Low Water Temperature	Working Hour
Engine Speed (RPM) Level Control	Generator work Schedule and Timing Control	- Overcurrent / Overload	- High / Low Load	Ground Leakage
Battery Voltage Options Times	Oil Pressure Controllers Control	Overheat Control	Mains., Generator ATS Control	Analog Modem
Check Engine Maintenance Times	Configurable Analog Inputs and Outputs	1 Phase or 3 Phase, Phase Selection	Network, Voltage, Frequency Display	Ethernet, USB, RS232, RS485
Communication Interfaces GPRS, GSM	Keeping Error Records of Past Events	Parameter Setting via Control Module	Parameter Setting via Computer	Selectable Protection Alarm / Shutdown
Engine Speed, Voltage, Earning	Configurable Programmable Digital Inputs and Outputs	Water Temperature Current and Frequency	Hours of Operation Phase sequence	Battery Voltage Oil Pressure

### SOUND PROOF CANOPY AND BASE FRAME (CHASIS) SPECIFICATIONS

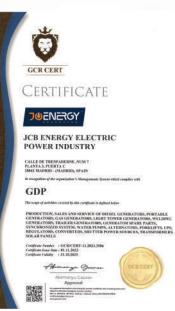


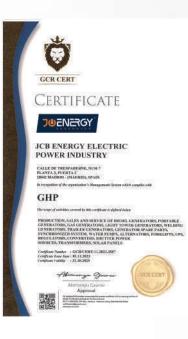
- Special, Registered JCB Energy Design and Colour
- A1 Quality DKP / HRU / Galvanized Steel
- Sensitive Twist on Automatic Press Brake
- Delicate Cut on Automatic Punch and Laser Bench
- Sensitive Welding on Robotic Welding Bench
- Chemical Cleaning Nano Technology Before Painting
- Robotic Painting with Electrostatic Powder Paint
- Drying and stabilizing on 200 °C Ovens
- 1500 Hour Salt Test
- Glass wool Isolation, A1 Class Material -50/+500 ℃
- Special Covering Over Glass Wool
- Best Sound Level (in Dba)
- Temperature Tests
- Rustproof Accessories

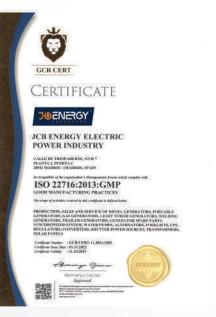
- Cable Exit Connectors and Glands
- Emergency Stop Button
- Fuel Level Gauge
- Fuel Drain Cap
- Fuel Inlet and Return Records
- I permeability Test for Fuel Tank
- Vacuumed Rubber Mounted
- High Quality weatherstrips
- High Quality Shock Absorbers
- Fuel Filling Cap (with ventilation)
- Lifting and Carrying Equipment
- Internal Exhaust Mufflers (Silencers)
- External Exhaust Mufflers (Silencers)
- Radiator water Filling Cap
- O Daily Fuel Tank, External Fuel Tank

# OUR CERTIFICATES











CERTIFICATE HEALTHY & SAFE WORKPLACE CERTIFICATE

JUENERGY JCB ENERGY ELECTRIC POWER INDUSTRY

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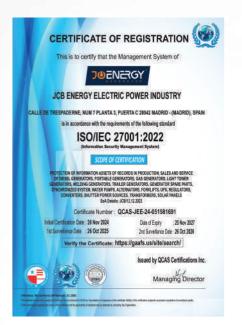
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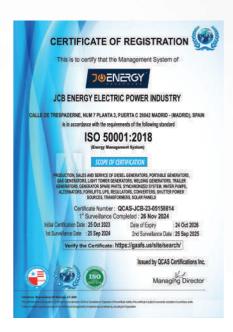
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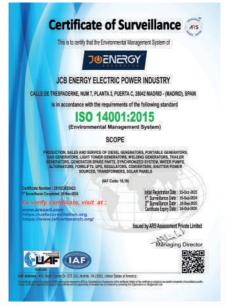


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#### DNV

#### MANAGEMENT SYSTEM CERTIFICATE

#### Certificate no: Initial certification date: D012084 14 August 2007

The site contribute the management system of **HD Hyundai Infracore Co., Ltd. Head Office & Incheon Plant** 40 (hipping) - Drops, Inderko, 2202, Republic of Korea and the sites an mentioned in the appendix accompanying this cartificate has been toxed to conform to the Environmental Management System standard. 150 (1400):1201

Valid: 14 October 2023 - 13 October 2026

The certificate is walls for the following scope: Design, Development, Manufacture, Servicing of Internal Combustion Engine for use in Marine Industry, General Industry and Automotive Industry, and Earth Moving Equipment[Excavator, Wheel Loader, Dezer], Testing of Earth Moving Equipment[Excavator and Wheel Loader].





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CERTIFY. That, according to the background data on moord at this Chambar and others produced by the Company

CB-BERGY RECEISE FOMBLINGOTINE SL, a Company with Tax ID. Namine H1997554, and to registress office a strengt impactements in 2000 Masking is registred on MMp 2004, and the heading of the 3D Service comparise, of the Economic Activities Tax Tarihi function 540 spectrum the future gradient of the Service comparison.

· Menufacture of electrical material for use and equipment

In whites whereast, for the appropriate purpose, i have issued and signed this Certificate, to which Latts the stamp of this Chamilee, in Madrial on 28 July 2004.





Libration and Annual Annua

BENE SANCHEZ ROMAN, DIRECTORA DEL DEIWOTMENTO DE ASESORIA IMPORTA Y CINSO DE LA CIMARIA OFICIAL DE COMERCIO, INDUSTINA Y SURVICIS DE MARIRO, CON OCIACIONI SOCIAL EN LA TILAZA DE LA INDEPENDENCIA Y IL IMPORTO-ENTRATA CERTIFICA Que de los antecedentes que obrin en ente Cuipenación y de coso entididos por la recordad, manta

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