JCB ENERGY ELECTRIC POWER INDUSTRY

JUENERGY

-VERTA-106188 -VERTA-106189

MADRID / SPAIN



www.jcbenergy.com



JVP 509

231 / 400 V – 50 Hz





GENERATOR GENERAL INFORMATION

GENERATOR	FREQUENCY	VOLTAGE	POWER FACTOR	SPEED	DIESEL EI	NGINE	ALTERN	IATOR		TYPE OF	GENER OUTPU				
Model	Hz	V	Cos Q	Rpm	Brand	Model	Brand	Model	Series	Operation	kVA	kW	А		
							U	N		JCB 319		Standby	509,0	407,2	735,5
JVP 509	50	231/400	0.8	1500	Volvo Penta	TAD1345GE	Z	JCB	315MXA		Prime	462,7	370,2	668,7	
		Penta	GY	Ğ		Continuous	323,9	259,1	468,1						
 Diesel Engines with Advanced Technology and Quality Alternators with Advanced Technology and Quality Low Exhaust Emission Control Panel Suitable for Flexible Application Patented Compact Designed and Sound proof Canopy Low Operating Cost, Suitable for Heavy-Duty 					 Tropical 50 °C Radiator, First Class Product Support Fuel Filter with Water and Particle Separator Low Fuel Consumption, Low Oil Consumption Global Technical Service and Maintenance Support Wide Range of Affordable Spare Parts High Quality and Reliable Technology 										

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.

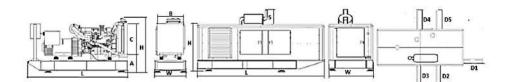
GENERATOR DIMENSIONS AND TECHNICAL DRAWINGS





VALUES		OPEN TYPE GENERATOR	CANOPY TYPE GENERATOR
WIDTH	mm	1200	1600
LENGTH	mm	3356	4600
HEIGHT	mm	2103	2280
WEIGHT (NET)	Kg	3400	4284
FUEL TANK CAPACITY	L	673	400

SYMBOL	OPEN	CANOPY
L	3356	4600
W	1200	1600
Н	2103	2280
S		500
Α	880	
В	890	
С	900	
D1		1002
D2		800
D3		800
D4		800
D5		800



PERCENT OF PRIME POWER	FUEL CONSUMPTION				
	l/hr				
110 %	108,7				
100 %	97,9				
75 %	72,7				
50 %	50,1				







DIESEL ENGINE MAIN TECHNICAL PARAMETERS

GENERALNumber of Cylinders6ConfigurationVertical, in lineAspirationTurbo Charged & CACCombustion SystemDirect injectionCompression Ratio18.1:1Boremm131Strokemm158DisplacementL12,78	
ConfigurationVertical, in lineAspirationTurbo Charged & CACCombustion SystemDirect injectionCompression Ratio18.1:1Boremm131Strokemm158	
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Combustion SystemDirect injectionCompression Ratio18.1:1Boremm131Strokemm158	
Compression Ratio 18.1:1 Bore mm 131 Stroke mm 158	
Bore mm 131 Stroke mm 158	
Displacement L 12,78	
•	
Governing Type Electronic	
Governing Class G3	
Rotation Counterclockwise	
Firing Order 1-5-3-6-2-4	
Emission EU Stage 2	
FILTERS	
Air Filter Dry Type, Replaceable	
Fuel Filter Element type, Replaceable	
Oil Filter Element Type, Particulate Trap	
ELECTRICAL SYSTEM	
Voltage V 24	
Starter kW 7	
Alternator Output Ampers A 80	
Alternator Output Voltage V 28	
Batteries Capacity Ah 2x105	
FAN	
Diameter mm 890	
Drive Ratio 0.99:1	
Number of Blades 9	
Material Composite	
Type Blowing	
COOLING SYSTEM	
Radiator Type 50°C Tropical	
Total Coolant Capacity L 44	
Max. Perm. Coolant Outlet Temperature °C 105	
Max. Perm. Flow Resist. (Cool. System And Piping) bar 0,5	
Max. Temperature of Coolant Warning PC 95	
Max. Temperature of Coolant Shutdown PC 98	
Thermostat Operation Temperature - Initial Open PC 82	
Thermostat Operation Temperature - Full Open PC 92	
Delivery of Coolant Pump m ³ / h 5,00	
Min. Pressure Before Coolant Pump bar 0,5	
Radiator Face Area m ² 0,8	
Rows Row 2	
Matrix Density Per / Inch 12	
Material Aluminum	
Width of Matrix mm 890	
Height of Matrix mm 900	
Pressure Cap Setting kPa 90	
Estimated Cooling Air Flow Reserve kPa 0,125	
Engine Pre Heater-Tube (with Circulation Pump) W 3000	





DIESEL ENGINE MAIN TECHNICAL PARAMETERS

LUBRICATION SYSTEM		
Total System	L	36
Minimum Oil Level	L	30
Nominal Motor Operating Temperature	₽C	55
Lubricating Oil Pressure (Rated Speed)	bar	5,2
Relief Valve Opens	kPa	300
Oil / Fuel Consumption Ratio	%	0,04
Normal Oil Temperature	°C	130

DIESEL ENGINE MATCHING PARAMETERS - 50 HZ

50 HZ @ 1500 R/MIN		STAND BY
Gross Engine Power	kW	441,0
Net Engine Power	kW	431,0
Fan Power Consumption (Belt Pulley Driven)	kW	10,0
Other Power Loss	kW	-
Mean Effective Pressure	MPa	2800,00
Intake Air Flow	m ³ / min	28,00
Exhaust Temperature Limit	₂C	570
Exhaust Flow	m ³/ min	58,30
Boost Pressure Ratio		15,00
Mean Piston Speed	m / s	7,9
Cooling Fan Air Flow	m ³/ min	348,0
Typical Generator Output Power	kVA	506
HEAT REJECTION		STAND BY
Energy in Fuel (Heat of Combustion)	kW	1001,00
Gross Heat to Power	kW	441,0
Energy to Coolant and Lubricating Oil	kW	160,0
Energy to Exhaust	kW	303,0
Heat to Radiation	kW	15,0



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ALTERNATOR SPECIFICATIONS



ALTERNATOR TECHNICA	L 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

ALTERNATOR SPECIFICATIONS

50 HZ / 231-400V COSQ 0,8 / 1500 RPM									
STANDARD USING ALTERNATOR				OPTIONAL USING ALTERNATOR					
BRAND/MODEL	JUENERGY	JCB 315MXA		LEROY-SO	OMER	TAL0473B	STAMFORD	S4L1DG	
DUTY				Continuous			s	itand By	
AMBIENT	C°			40°C				27°C	
CLASS / TEMP. RISE	C°			Н/ 125° К			F	I/ 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	374,0	374,0	389,0	-	412,0	412,0	427,0	-





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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





- ATS (Automatic Transfer Panel)
 Optional
- o Control Module
- o Battery Charger
- Emergency Stop Button

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

CONTROL MODULE TECHNICAL PARAMETERS

Brand	JUENERGY	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







CONTROL MODULE FUNCTION

Mains Voltage Level Control	Generator Voltage Level Control	3 Phase Generator Protections	3 Phase AMF Function	Alarm Horn
Network Frequency Level Control	Generator Frequency level Control	- High / Low Voltage	- High / Low Frequency	Heater Tube 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	 Current / Voltage Asymmetry 	- 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

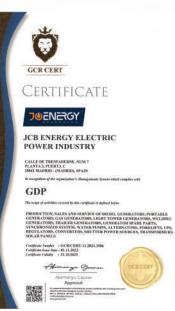


- Special, Registered JCB Energy Design and Colour
- A1 Quality DKP / HRU / Galvanized Steel
- Sensitive Twist on Automatic Press Brake
- Delicate Cut on Automatic Punch and Laser Bench
- Sensitive Welding on Robotic Welding Bench
- Chemical Cleaning Nano Technology Before Painting
- Robotic Painting 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

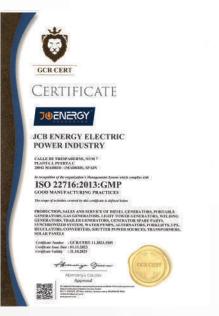
- Cable Exit Connectors and Glands
- Emergency Stop Button
- Fuel Level Gauge
- Fuel Drain Cap
- Fuel Inlet and Return Records
- I permeability Test for Fuel Tank
- Vacuumed Rubber Mounted
- High Quality weatherstrips
- High Quality Shock Absorbers
- Fuel Filling Cap (with ventilation)
- Lifting and 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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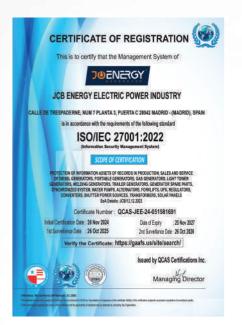
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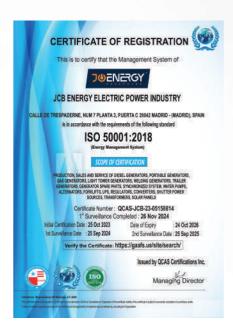
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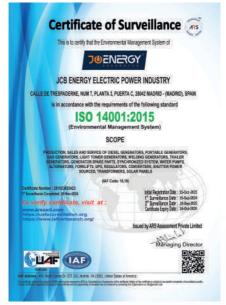


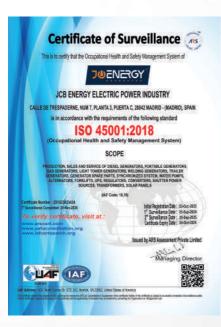
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MANAGEMENT SYSTEM CERTIFICATE

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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RENE SANCHEZ ROMAN, MANAGER CH'THE DERIMETATION OF LIGAL ADVISORY SERVICES AND THE DATAMASE OF THE OFFICIAL OMAXBER OF COMMERCE, MOLERIF AND SERVICES OF MARIND, WITH INDUSTRIED OFFICE AT PLAZA DE LA INDERDIDICA 1, MARIND, DAVIN

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.





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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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