JCB ENERGY ELECTRIC POWER INDUSTRY

JUENERGY

MADRID / SPAIN





231 / 400 V – 50 Hz





GENERATOR GENERAL INFORMATION

GEN	ERATOR	FREQUENCY	VOLTAGE	POWER FACTOR	SPEED	DIESEL EN	GINE	ALTERN	IATOR		TYPE OF	GENER	ATOR O	UTPUT
Mod	lel	Hz	V	Cos Q	Rpm	Brand	Model	Brand	Model	Series	Operation	kVA	kW	А
								ĕ			Standby	1.125,0	900,0	1.625,7
JCP 1	JCP 1125	50	231/400	0.8	1500	PERKINS	KINS 4008TAG2A		JCB	400M	Prime	1.022,7	818,2	1.477,9
								RGY			Continuous	715,9	572,7	1.034,6
	 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 Durability, Low Noise Level 					 Fuel Filter Low Fuel G Global Teo Wide Rang High Qual 	with Wa Consump chnical Se ge of Affe ity and R	ter and F tion, Low ervice and ordable S eliable Te	Particle Se v Oil Cons d Mainter pare Part echnology	sumption nance Suppor	t			

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):

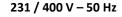
PRP (Prime Power) is available for an unlimited number of hours per year in a variable load application. Variable load should not exceed a 70% average of the Prime Power rating during any operating period of 250 hours. The total operating time at 100% Prime Power shall not exceed 500 hours per year. 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.







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.

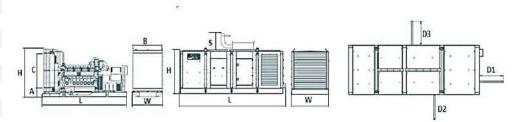
GENERATOR DIMENSIONS AND TECHNICAL DRAWINGS





VALUES		OPEN TYPE GENERATOR	CANOPY TYPE GENERATOR
WIDTH	mm	2050	2350
LENGTH	mm	5100	6769
HEIGHT	mm	2145	2405
WEIGHT (NET)	Kg	7820	11470
FUEL TANK CAPACITY	L	2000	2000

SYMBOL	OPEN	CANOPY
L	5100	6769
W	2050	2350
н	2145	2405
S		700
Α	280	
В	1992	
С	1592	
D1		1298
D2		1044
D3		1044
D4		
D5		



PERCENT OF PRIME POWER	FUEL CONSUMPTION				
	l/hr				
110 %	239,38				
100 %	215,34				
75 %	161,51				
50 %	108,19				





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DIESEL ENGINE MAIN TECHNICAL PARAMETERS

GENERAL		
Number of Cylinders		8
Configuration		Vertical, in line
Aspiration		Turbo Charged & Intercooled
Combustion System		Direct injection
Compression Ratio		13.6:1
Bore	mm	160
Stroke	mm	190
Displacement	L	30,561
Governing Type	-	Electronic
Governing Class		G3
Rotation		Counterclockwise
Firing Order		1-4-7-6-8-5-2-3
Emission		Fuel Optimised
FILTERS		
Air Filter		Dry Type, Replaceable
Fuel Filter		Element Type, Replaceable
Oil Filter		Element Type, Particulate Trap
ELECTRICAL SYSTEM		/
Voltage	V	24
Starter	kW	8,2
Alternator Output Ampers	A	40
Alternator Output Voltage	V	28
Batteries Capacity	Ah	2X143
FAN		
Diameter	mm	1400
Drive Ratio		0.75:1
Number of Blades		9
Material		Metal
Туре		Blowing
COOLING SYSTEM		
Radiator Type	50ºC	Tropical
Total Coolant Capacity	L	149
Max. Perm. Coolant Outlet Temperature	°C	103
Max. Perm. Flow Resist. (Cool. System And Piping)	bar	0,5
Max. Temperature of Coolant Warning	°C	95
Max. Temperature of Coolant Shutdown	°C	98
Thermostat Operation Temperature - Initial Open	°C	71
Thermostat Operation Temperature - Full Open	°C	85
Delivery of Coolant Pump	m ³/ h	8,50
Min. Pressure Before Coolant Pump	bar	0,5
Radiator Face Area	m²	3,17
Rows	Row	3
Matrix Density	Per / Inch	14
Material		Aluminum
Width of Matrix	mm	1992
Height of Matrix	mm	1592
Pressure Cap Setting	kPa	70
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	153
Minimum Oil Level	L	127
Nominal Motor Operating Temperature	°C	40
Lubricating Oil Pressure (Rated Speed)	bar	4,5
Relief Valve Opens	kPa	340
Oil / Fuel Consumption Ratio	%	0,52
Normal Oil Temperature	₽C	110

DIESEL ENGINE MATCHING PARAMETERS - 50 HZ

50 HZ @ 1500 R/MIN		STAND BY
Gross Engine Power	kW	985,0
Net Engine Power	kW	947,0
Fan Power Consumption (Belt Pulley Driven)	kW	38,0
Other Power Loss	kW	-
Mean Effective Pressure	MPa	2578,00
Intake Air Flow	m ³ / min	80,50
Exhaust Temperature Limit	°C	465
Exhaust Flow	m ³/ min	200,00
Boost Pressure Ratio		100,00
Mean Piston Speed	m / s	9,5
Cooling Fan Air Flow	m ³/ min	1350,0
Typical Generator Output Power	kVA	1125
HEAT REJECTION		STAND BY
Energy in Fuel (Heat of Combustion)	kW	2498,0
Gross Heat to Power	kW	985,0
Energy to Coolant and Lubricating Oil	kW	349,0
Energy to Exhaust	kW	807,0
Heat to Radiation	kW	100,0



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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	MX341+PMG
Wires		6	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.	1,614	Wave Form: I.E.C. = THF - (*)	%	< 2
Bearing Drive	N/A	-	Bearing Non-Drive	Bearing	6317-2RZ
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		JCB 400M		LEROY-SO	OMER	TAL049E	STAMFORD	НСбЈ	
DUTY				Continuous				Stand By	
AMBIENT	C°			40°C				27°C	
CLASS / TEMP. RISE	C°			Н/ 125° К			I	Н/ 163° К	
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	1000,0	1000,0	1038,0	-	1100,0	1100,0	1141,0	-
OUTPUT POWER	kW	800,0	800,0	830,0	-	880,0	880,0	913,0	-



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

- Terminal Blocks
- o 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



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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 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

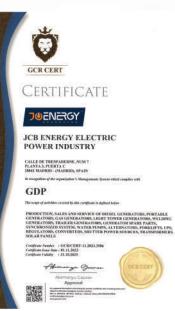


- Special, Registered JCB Energy Design and Colour
- A1 Quality DKP / HRU / Galvanized Steel
- Sensitive Twist on Automatic Press Brake
- Delicate Cut on Automatic Punch and Laser Bench
- Sensitive Welding on Robotic Welding Bench
- Chemical Cleaning Nano Technology Before Painting
- Robotic Painting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

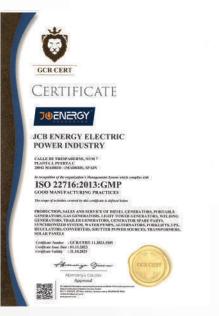
- Cable Exit Connectors and Glands
- Emergency Stop Button
- Fuel Level Gauge
- Fuel Drain Cap
- Fuel Inlet and Return Records
- I permeability Test for Fuel Tank
- Vacuumed Rubber Mounted
- High Quality weatherstrips
- High Quality Shock Absorbers
- Fuel Filling Cap (with ventilation)
- Lifting and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

OUR CERTIFICATES











CERTIFICATE HEALTHY & SAFE WORKPLACE CERTIFICATE

JUENERGY JCB ENERGY ELECTRIC POWER INDUSTRY

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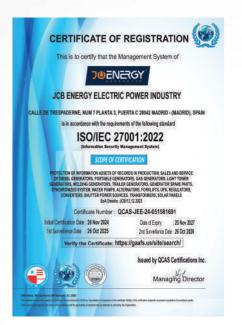
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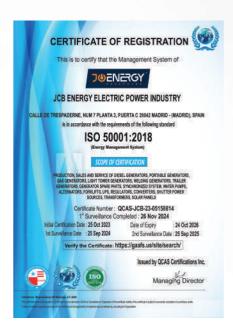
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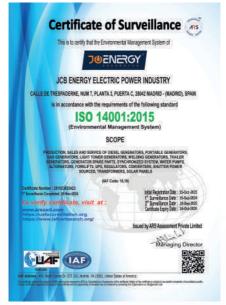


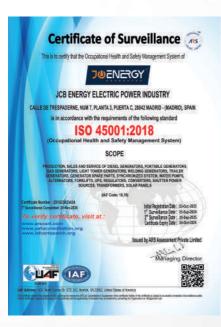
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MANAGEMENT SYSTEM CERTIFICATE

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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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 DERVICTAMENTO DE ASESORIA IMPRICA Y CINSO DE LA CIMARIA OFICIAL DE COMERCIO, INDUSTINA Y SURVICIS DE MARIRO, CON OCIACIONO SOCIAL EN LA TILAZA DE LA INDEPENDENCIA M. L'ANDRO-ENTANA CERTIFICA Qua de los antecedentes que obrin en ente Cuipenación y de coso entididos por la recordad, muntar

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