JCB ENERGY ELECTRIC POWER INDUSTRY

MADRID / SPAIN

-VERTA-106188
-VERTA-106189

www.jcbenergy.com

JCN 2250 & 2250

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

75 dB(A) @ 7mt

GENERATOR GENERAL INFORMATION

GENERATOR	FREQUENCY	VOLTAGE	POWER FACTOR	SPEED	DIESEL ENGINE			ALTERNATOR			TYPE OF	GENERATOR OUTPUT		
Model	Hz	V	Cos Q	Rpm	Brand	Model	Series	Brand	Model	Series	Operation	kVA	kW	A
JCN 2250	50	231/400	0.8	1500	JCN	Y2782JCI	YII	JOENERGY	JCB	450M	**Standby**	**2.250,0**	**1.800,0**	**3.251,4**
											Prime	2.045,5	1.636,4	2.955,9
											Continuous	1.431,8	1.145,5	2.069,1
JCN 2250	60	277/480	0.8	1800						450S	**Standby**	**2.250,0**	**1.800,0**	**3.251,4**
											Prime	2.045,5	1.636,4	2.955,9
											Continuous	1.431,8	1.145,5	2.069,1

- 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
- Durability, Low Noise Level
- 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
- Half Century Experience in Generator Manufacturing

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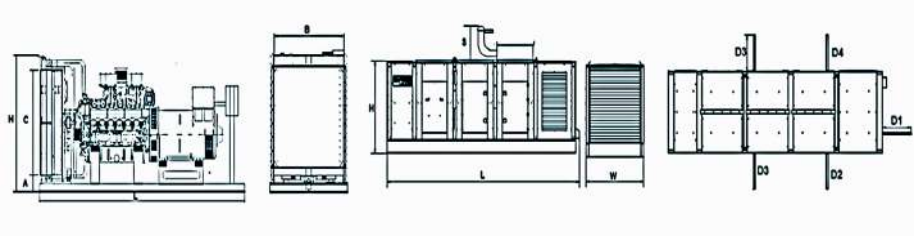
PAY ATTENTION TO THE POINTS BELOW IN PICKING AND USING THE GENERATOR

* 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	2600	2800
LENGTH	mm	5700	9000
HEIGHT	mm	2643	2900
WEIGHT (NET)	Kg	13570	18590
FUEL TANK CAPACITY	L	3500	3500

SYMBOL	OPEN	CANOPY
L	5700	9000
W	2600	2800
H	2643	2000
S		900
A	300	
B	2559	
C	2086	
D1		1044
D2		1044
D3		1044
D4		1044
D5		1044



FUEL CONSUMPTION

PERCENT OF PRIME POWER	1500 rpm	1800 rpm
	l/hr	l/hr
110 %	448,95	448,95
100 %	411,88	411,88
75 %	310,47	310,47
50 %	217,33	217,33

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DIESEL ENGINE MAIN TECHNICAL PARAMETERS

GENERAL		
Number of Cylinders		12
Configuration		V-Type
Aspiration		Turbocharged & Intercooled
Combustion System		Direct Injection
Compression Ratio		13.5:1
Bore	mm	200
Stroke	mm	210
Displacement	L	79,17
Governing Type		ECU
Governing Class		G3
Rotation		Counterclockwise
Firing Order		L1-R6-L5-R2-L3-R4-L6-R1-L2-R5-L4-R3
Emission		Tier II
Moments of Rotation Inertia		
Engine	Kg - m²	39,53
Flywheel	Kg - m²	25,05
Performance Rating		
Speed Droop	%	≤0,5
Steady State Speed Band	%	≤0,5
FILTERS		
Air Filter		Dry Type, Replaceable
Fuel Filter		With Water Separator
Oil Filter		Element Type, Particulate Trap
FLYWHEEL HOUSING AND FLEX COUPLING		
Flywheel Housing	SAE (J620)	00
Flex Coupling Disc	Inch (“)	21
TEST CONDITIONS		
Ambient Temperature	%	25
Atmospheric Pressure	KPa	100
Relative Humidity	Rh (%)	30
Max. Operating Intake Resistance	KPa	<5
Exhaust Backpressure Limit	KPa	<10
Fuel Temperature (Fuel Inlet Pump)	°C	38±2
OVERALL DIMENSIONS		
Length*	mm	3320
Width	mm	2560
Height	mm	2255
Dry Weight	kg	9675
***From front end of radiator to near end of air filter**		
FAN		
Diameter	mm	1700
Drive Ratio		1,26
Number of Blades		8
Material		PAG
Type		Blowing

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DIESEL ENGINE MAIN TECHNICAL PARAMETERS

COOLING SYSTEM		
Radiator Type	50ºC	Tropical
Total Coolant Capacity	L	355
Max. Perm. Coolant Outlet Temperature	ºC	105
Max. Perm. Flow Resist. (Cool. System And Piping)	bar	0,5
Max. Temperature of Coolant Warning	ºC	95
Max. Temperature of Coolant Shutdown	ºC	98
Thermostat Operation Temperature - Initial Open	ºC	75
Thermostat Operation Temperature - Full Open	ºC	85
Delivery of Coolant Pump	m^3/h	16,67
Min. Pressure Before Coolant Pump	bar	0,5
Radiator Face Area	m^2	5,35
Rows	Row	7
Matrix Density	Per / Inch	12
Material		Aluminum
Width of Matrix	mm	2559
Height of Matrix	mm	2086
Pressure Cap Setting	kPa	50
Estimated Cooling Air Flow Reserve	kPa	0,125
Engine Pre Heater-Tube (with Circulation Pump)	W	2x4500
LUBRICATION SYSTEM		
Total System	L	340
Minimum Oil Level	L	280
Nominal Motor Operating Temperature	ºC	40
Lubricating Oil Pressure (Rated Speed)	bar	7
Relief Valve Opens	kPa	200
Oil / Fuel Consumption Ratio	%	≤0,1
Normal Oil Temperature	ºC	110
ELECTRICAL SYSTEM		
Voltage	V	24
Starter	kW	2X11
Alternator Output Ampers	A	60
Alternator Output Voltage	V	28
Batteries Capacity	Ah	4X200

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JCB ENERGY DIESEL ENGINE POWER RATINGS

ENGINE MODEL	Y2782JCI	ENGINE FAMILY	JC27	ENGINE SERIES	YII

Speed (Rpm)	Type of Operation	TYPICAL GENERATOR OUTPUT (NET)		ENGINE POWER			
				Gross		Net	
		kVA	kWe	KWm	Hp	kWm	Hp
1500	Stand By(Maximum)	2.250,0	1.800,0	1.950,0	2.617,4	1.875,0	2.516,8
	Prime	2.046,0	1,637,0	1.780,0	2.389,3	1.705,0	2.288,6
1800	Stand By(Maximum)	2.250,0	1.800,0	1.950,0	2.617,4	1.875,0	2.516,8
	Prime	2.046,0	1,637,0	1.780,0	2.389,3	1.705,0	2.288,6

DIESEL ENGINE MATCHING PARAMETERS - 50 HZ

50 HZ @ 1500 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	1950,0	1780,0
Net Engine Power	kW	1875,0	1705,0
Fan Power Consumption (Belt Pulley Driven)	kW	70,0	70,0
Other Power Loss	kW	5,0	5,0
Mean Effective Pressure	MPa	1,97	1,78
Intake Air Flow	m^3 / min	175,00	159,00
Exhaust Temperature Limit	ºC	550	550
Exhaust Flow	m^3/ min	395,00	358,00
Boost Pressure Ratio		3,15	2,88
Mean Piston Speed	m / s	10,5	10,5
Cooling Fan Air Flow	m^3/ min	3000,0	3000,0
Typical Generator Output Power	kVA	2250	2046
HEAT REJECTION		**STAND BY**	**PRIME**
Energy in Fuel (Heat of Combustion)	kW	4766,0	4277,0
Gross Heat to Power	kW	1950,0	1780,0
Energy to Coolant and Lubricating Oil	kW	640,0	576,0
Heat Dissipation Capacity *	kW	750,0	675,0
Energy to Exhaust	kW	1218,0	1043,0
Heat to Radiation	kW	208,0	203,0

***Intake Intercooled system**

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DIESEL ENGINE MATCHING PARAMETERS - 60 HZ

60 HZ @ 1800 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	1950,0	1780,0
Net Engine Power	kW	1875,0	1705,0
Fan Power Consumption (Belt Pulley Driven)	kW	70,0	70,0
Other Power Loss	kW	5,0	5,0
Mean Effective Pressure	MPa	1,97	1,78
Intake Air Flow	m ³ / min	175,00	159,00
Exhaust Temperature Limit	ºC	550	550
Exhaust Flow	m ³ / min	395,00	358,00
Boost Pressure Ratio		3,15	2,88
Mean Piston Speed	m / s	10,5	10,5
Cooling Fan Air Flow	m ³ / min	3000,0	3000,0
Typical Generator Output Power	kVA	2250	2046
HEAT REJECTION		**STAND BY**	**PRIME**
Energy in Fuel (Heat of Combustion)	kW	4766,0	4277,0
Gross Heat to Power	kW	1950,0	1780,0
Energy to Coolant and Lubricating Oil	kW	640,0	576,0
Heat Dissipation Capacity *	kW	750,0	675,0
Energy to Exhaust	kW	1218,0	1043,0
Heat to Radiation	kW	208,0	203,0

*Intake Intercooled system

JCB ALTERNATOR TECHNICAL PARAMETERS AND SPECIFICATIONS

ALTERNATOR TECHNICAL PARAMETERS					
Insulation Class		H	Field Control System		Self-Excited
Winding Pitch		2/3 - (N° 6)	A.V.R. Model	Standard	MX321+PMG
Wires		6	Voltage Regulation	%	± 0.5
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.	2,69	Wave Form: I.E.C. = THF - (*)	%	< 1.5
Bearing Drive	N/A	-	Bearing Non-Drive	Bearing	6319-2RZ
Rotor Winding	100%	Copper	Stator Winding	100%	Copper

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ALTERNATOR SPECIFICATIONS

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

STANDARD USING ALTERNATOR						OPTIONAL USING ALTERNATOR			
BRAND/MODEL	JOENERGY	JCB 450M		LEROY-SOMER	LSA 52.3S5		STAMFORD	P7E	
DUTY				**Continuous**				**Stand 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	**2045,0**	2045,0	**2086,0**	-	**2250,0**	2250,0	**2295,0**	-
OUTPUT POWER	kW	**1636,0**	1636,0	**1668,8**	-	**1800,0**	1800,0	**1836,0**	-

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

STANDARD USING ALTERNATOR						OPTIONAL USING ALTERNATOR			
BRAND/MODEL	JOENERGY	JCB 450S		LEROY-SOMER	LSA 50.2V10		STAMFORD	S7L1D-E4	
DUTY				**Continuous**				**Stand By**	
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	**480/277**	1 Phase
PARALLEL STAR	V	**208/120**	220/127	**240/138**	-	**208/120**	220/127	**240/138**	-
SERIES DELTA	V	**240**	254	**277**	240	**240**	254	**277**	240
OUTPUT POWER	kVA	**2045,0**	2045,0	**2086,0**	-	**2250,0**	2250,0	**2295,0**	-
OUTPUT POWER	kW	**1636,0**	1636,0	**1668,8**	-	**1800,0**	1800,0	**1836,0**	-

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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 Transfer Panel)-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	JOENERGY	**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 ºC 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
- Impermeability 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

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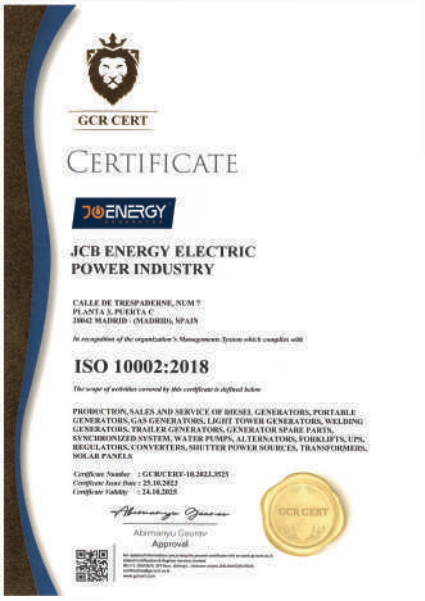

GCR CERT

CERTIFICATE

JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM 7
PLANTA 3, PUERTA C
28042 MADRID - (MADRID), SPAIN

In recognition of the organization's Management System which complies with

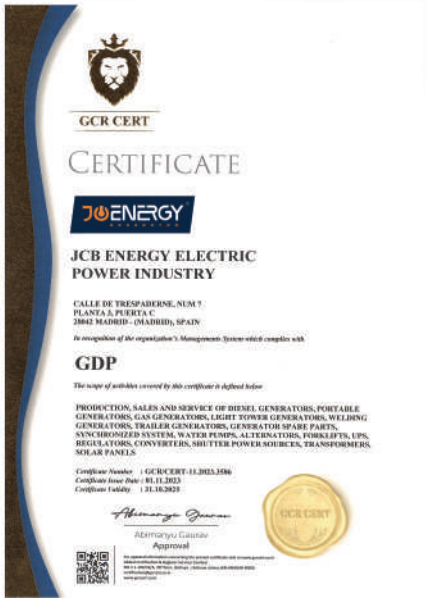
ISO 10002:2018

The scope of activities covered by this certificate is defined below

PRODUCTION, SALES AND SERVICE OF DIESEL GENERATORS, PORTABLE GENERATORS, GAS GENERATORS, LIGHT TOWER GENERATORS, WELDING GENERATORS, TRAILER GENERATORS, GENERATOR SPARE PARTS, SYNCHRONIZED SYSTEM, WATER PUMPS, ALTERNATORS, FORKLIFTS, UPS, REGULATORS, CONVERTERS, SHUTTER POWER SOURCES, TRANSFORMERS, SOLAR PANELS

Certificate Number : GCR/CERT-10.2023.3525
Certificate Issue Date : 25.10.2023
Certificate Validity : 24.10.2025

Abhimanyu Gaurav
Approval


GCR CERT

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JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM 7
PLANTA 3, PUERTA C
28042 MADRID - (MADRID), SPAIN

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GDP

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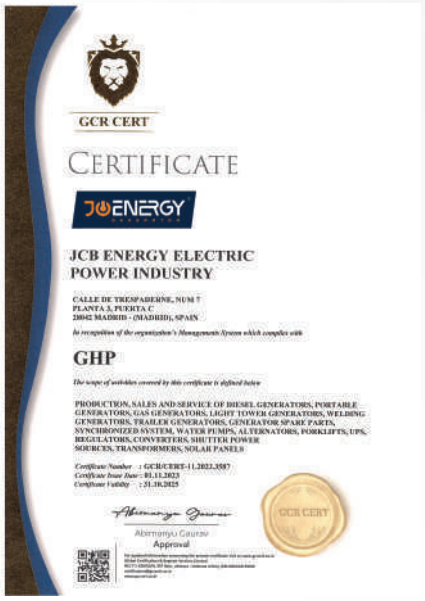
PRODUCTION, SALES AND SERVICE OF DIESEL GENERATORS, PORTABLE GENERATORS, GAS GENERATORS, LIGHT TOWER GENERATORS, WELDING GENERATORS, TRAILER GENERATORS, GENERATOR SPARE PARTS, SYNCHRONIZED SYSTEM, WATER PUMPS, ALTERNATORS, FORKLIFTS, UPS, REGULATORS, CONVERTERS, SHUTTER POWER SOURCES, TRANSFORMERS, SOLAR PANELS

Certificate Number : GCR/CERT-11.2023.3506
Certificate Issue Date : 01.11.2023
Certificate Validity : 31.10.2025

Abhimanyu Gaurav
Approval


GCR CERT

CERTIFICATE

JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM 7
PLANTA 3, PUERTA C
28042 MADRID - (MADRID), SPAIN

In recognition of the organization's Management System which complies with

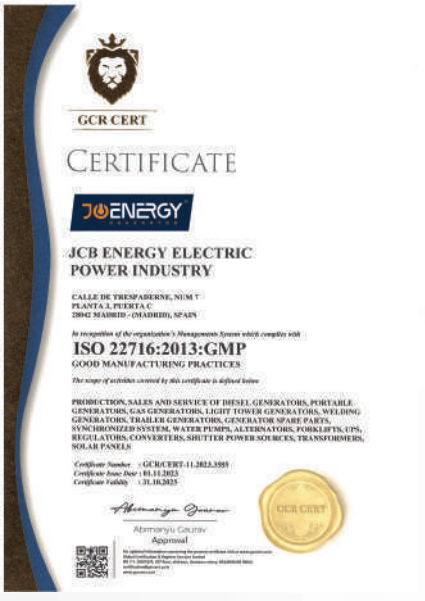
GHP

The scope of activities covered by this certificate is defined below

PRODUCTION, SALES AND SERVICE OF DIESEL GENERATORS, PORTABLE GENERATORS, GAS GENERATORS, LIGHT TOWER GENERATORS, WELDING GENERATORS, TRAILER GENERATORS, GENERATOR SPARE PARTS, SYNCHRONIZED SYSTEM, WATER PUMPS, ALTERNATORS, FORKLIFTS, UPS, REGULATORS, CONVERTERS, SHUTTER POWER SOURCES, TRANSFORMERS, SOLAR PANELS

Certificate Number : GCR/CERT-11.2023.3507
Certificate Issue Date : 01.11.2023
Certificate Validity : 31.10.2025

Abhimanyu Gaurav
Approval


GCR CERT

CERTIFICATE

JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM 7
PLANTA 3, PUERTA C
28042 MADRID - (MADRID), SPAIN

In recognition of the organization's Management System which complies with

ISO 22716:2013:GMP
GOOD MANUFACTURING PRACTICES

The scope of activities covered by this certificate is defined below

PRODUCTION, SALES AND SERVICE OF DIESEL GENERATORS, PORTABLE GENERATORS, GAS GENERATORS, LIGHT TOWER GENERATORS, WELDING GENERATORS, TRAILER GENERATORS, GENERATOR SPARE PARTS, SYNCHRONIZED SYSTEM, WATER PUMPS, ALTERNATORS, FORKLIFTS, UPS, REGULATORS, CONVERTERS, SHUTTER POWER SOURCES, TRANSFORMERS, SOLAR PANELS

Certificate Number : GCR/CERT-11.2023.3505
Certificate Issue Date : 01.11.2023
Certificate Validity : 31.10.2025

Abhimanyu Gaurav
Approval


GCR CERT

CERTIFICATE

HEALTHY & SAFE WORKPLACE CERTIFICATE

JCB ENERGY ELECTRIC POWER INDUSTRY

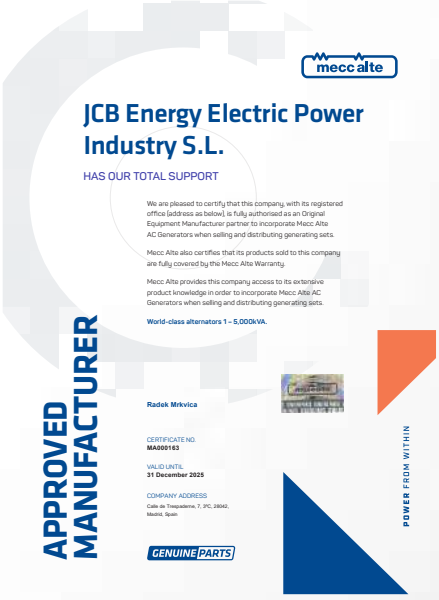
CALLE DE TRESPADERNE, NUM 7
PLANTA 3, PUERTA C
28042 MADRID - (MADRID), SPAIN

It has been entitled to obtain a Healthy and Safe Workplace Certificate by fulfilling the requirements for COVID-19 measures, within the physical conditions of the business with in the scope of the Healthy and Safe Workplace Certificate program.

FACTORIES - PRODUCTION LOCATIONS:
ELECTRICAL AND ELECTRONICS INDUSTRY

Certificate Number : GCR/CERT-11.2023.3650
Certificate Issue Date : 07.11.2023
Certificate Validity : 06.11.2025

Abhimanyu Gaurav
Approval



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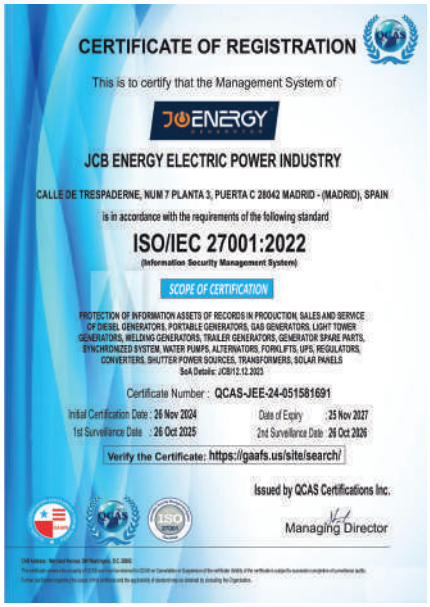

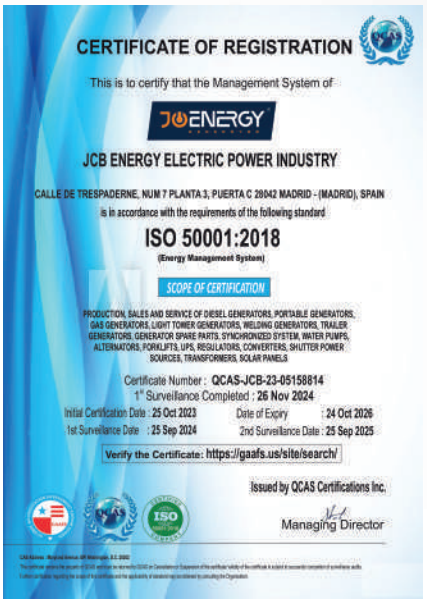

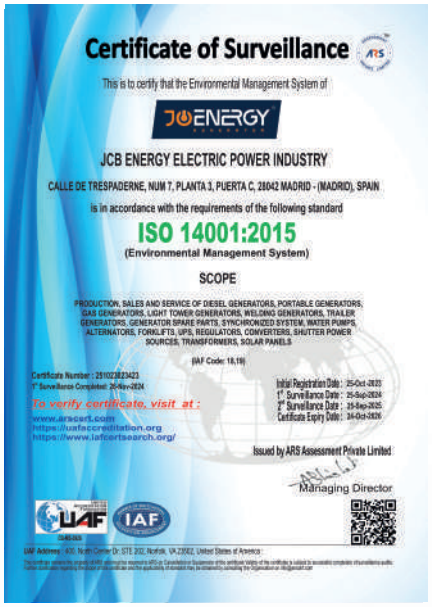

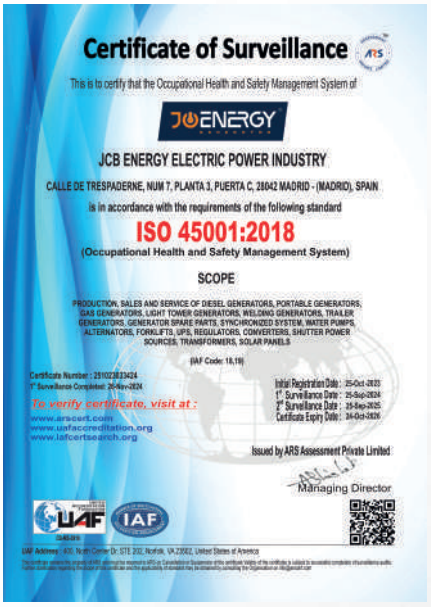

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-VERTA-106189

DNV

MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: C612084
Initial certification date: 14 August 2007
Valid: 14 October 2023 – 13 October 2026

This is to certify that the management system of

HD Hyundai Infracore Co., Ltd. Head Office & Incheon Plant

489, Injung-ro, Dong-gu, Incheon, 22502, Republic of Korea

and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Environmental Management System standard:

ISO 14001:2015

This certificate is valid 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, Dozer).
Testing of Earth Moving Equipment(Excavator and Wheel Loader).

Place and date:
Barendrecht, 09 October 2023

For the issuing office:
DNV - Business Assurance
Zwolseweg 1, 2994 LB Barendrecht, Netherlands

Erie Koek
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance B.V., Zwolseweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102922689. www.dnv.com/assurance

DNV

MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: C612085
Initial certification date: 03 January 2006 (based on OHSAS 18001)
Valid: 14 October 2023 – 13 October 2026

This is to certify that the management system of

HD Hyundai Infracore Co., Ltd. Head Office & Incheon Plant

489, Injung-ro, Dong-gu, Incheon, 22502, Republic of Korea

and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Occupational Health and Safety Management System standard:

ISO 45001:2018

This certificate is valid 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, Dozer).
Testing of Earth Moving Equipment(Excavator and Wheel Loader).

Place and date:
Barendrecht, 09 October 2023

For the issuing office:
DNV - Business Assurance
Zwolseweg 1, 2994 LB Barendrecht, Netherlands

Erie Koek
Management Representative

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REGISTRO GENERAL
SALIDA
Nº de Registro: 645 / RG 645
Fecha: 29/07/2024 12:30:09

IRENE SANCHEZ ROMAN, MANAGER OF THE DEPARTMENT OF LEGAL ADVISORY SERVICES AND THE DATABASE OF THE OFFICIAL CHAMBER OF COMMERCE, INDUSTRY AND SERVICES OF MADRID, WITH REGISTERED OFFICE AT PLAZA DE LA INDEPENDENCIA 1, MADRID, SPAIN

CERTIFY: That, according to the background data on record at this Chamber and others produced by the Company:

JCB ENERGY ELECTRIC POWER INDUSTRY S.L., a Company with Tax I.D. Number B13975594, and its registered office at street Trespaderne no. 7, 28042 Madrid) is registered on 8 May 2024, under the heading of the 1st Section, companies, of the Economic Activities Tax Tariffs Number 342 to perform the following activity:

- Manufacture of electrical material for use and equipment

In witness whereof, for the appropriate purpose, I have issued and signed this Certificate, to which I affix the stamp of this Chamber, in Madrid on 26 July 2024.

REGISTRO GENERAL
SALIDA
Nº de Registro: 650 / RG 650
Fecha: 30/07/2024 12:37:28

IRENE SANCHEZ ROMAN, DIRECTORA DEL DEPARTAMENTO DE ASESORIA JURIDICA Y CENSO DE LA CÁMARA OFICIAL DE COMERCIO, INDUSTRIA Y SERVICIOS DE MADRID, CON DOMICILIO SOCIAL EN LA PLAZA DE LA INDEPENDENCIA Nº 1, MADRID – ESPAÑA

CERTIFICA: Que de los antecedentes que obran en esta Corporación y de otros exhibidos por la sociedad, resulta:

PRIMERO.- Que la compañía JCB ENERGY ELECTRIC POWER INDUSTRY S.L., es una sociedad mercantil de nacionalidad española, constituida mediante escritura pública de fecha 23 de junio de 2023, autorizada por don José María Marín Vazquez, Notario del Ilustre Colegio de Madrid con el número 1.251 de orden de su protocolo, e inscrita en el Registro Mercantil al Tomo 45.424, Folio 40, Hoja M-799.035, Inscripción 1ª.

SEGUNDO.- Que según se desprende de la mencionada escritura de constitución, en el artículo 2 de los Estatutos de la compañía JCB ENERGY ELECTRIC POWER INDUSTRY S.L., consta que tiene por objeto social:

"Actividad principal 27.11. Fabricación de motores, generadores y transformadores eléctricos".

TERCERO.- Que según se desprende de la escritura de constitución, el capital social de la compañía JCB ENERGY ELECTRIC POWER INDUSTRY S.L. se fija en la cantidad de 19.920,00 € (DIECINUEVE MIL NOVECIENTOS VEINTE EUROS), dividido en 19.920 participaciones sociales, de 1,00 € (UN EURO) de valor nominal cada una, numeradas correlativamente del 1 al 19.920 ambos inclusive, que son íntegramente asumidas y desembolsadas por el socio fundador.

CUARTO.- Que según consta en la escritura de constitución citada en párrafos anteriores, la compañía JCB ENERGY ELECTRIC POWER INDUSTRY S.L., opta por el sistema de Administrador Único y nombra por tiempo indefinido a don Mohamed A M Elaalem, con Número de Identidad Extranjero Y6048327P, para que actúe en nombre y representación de la mercantil, con cuantas facultades legal y estatutariamente correspondan a dicho cargo, procediendo el administrador nombrado a la aceptación del mismo.

QUINTO.- Que la compañía JCB ENERGY ELECTRIC POWER INDUSTRY S.L., con domicilio en calle Trespaderne número 7, 28042 Madrid y provista de Número de Identificación Fiscal B13975594, consta dada de alta en el grupo/epígrafe 342 de la Sección 1ª empresarial de las Tarifas del Impuesto sobre Actividades Económicas, que faculta para ejercer la actividad "Fabricación de material eléctrico de utilización y equipamiento".

Vertacert international

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CE DECLARATION OF CONFORMITY

JCB ENERGY ELECTRIC POWER INDUSTRY SL
C/ ALFREDO MARQUERIE, NÚMERO 11, PUERTA A, PLANTA 7 MADRID 28034 MADRID

Description Of The Product : GENERATOS AND PUMPS

Product Brand/Model/Type : DIESEL GENERATORS, GAS GENERATORS, PORTABLE GENERATORS, LIGHT TOWERS, WATER PUMPS, FORKLIFT, UPS, REGULATORS, CONVERTERS, ALTERNATORS, WELDING GENERATORS, TRAILER GENERATORS, SHUTTER POWER SOURCES

Applicable Harmonized Standards : [illegible]

Applicable EC Directives : 2006/42/EC MACHINERY DIRECTIVE
: 2014/30/EU ELECTROMAGNETIC COMPABILITY DIRECTIVE

Type /Models : JCN SERIES, JCP SERIES, JCD SERIES, JCC SERIES, JWP SERIES, [illegible]

Certificate Number : VERTA-106188
Certificate Issue Date : 04.02.2025
Certificate Validity Date : 04.02.2026
Certificate Period : 1 Year

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CE DECLARATION OF CONFORMITY

JCB ENERGY ELECTRIC POWER INDUSTRY SL
C/ ALFREDO MARQUERIE, NÚMERO 11, PUERTA A, PLANTA 7 MADRID 28034 MADRID

Description Of The Product : POWER GENERATORS
Ürünün Tanımı : GÜÇ JENERATÖRLERİ

Applicable Harmonized Standards : TSE E 195, TS ISO 8528-8, TS EN ISO 3744:2000
Geçerli Uyumlaştırılmış Standartlar

Applicable EC Directives : NOISE REGULATION AND NOISE EMISSION 2005/88/EC, NOISE EMISSION (2000/14/EC)
Geçerli AT Direktifleri : [illegible]

Sertifika Numarası / Certificate Number : VERTA-106189
İlk Yayın Tarihi / Certificate Issue Date : 04.02.2025
Sertifika Geçerlilik Tarihi / Certificate Validity Date : 04.02.2026
Sertifika Periyodu / Certificate Period : 1 Yıl / 1 Year

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