



## GENERATOR GENERAL INFORMATION

GENERATOR	FREQUENCY	VOLTAGE	POWER FACTOR	SPEED	DIESEL ENGINE	ALTERNATOR				TYPE OF	GENERATOR OUTPUT		
Model	Hz	V	Cos Q	Rpm	Brand	Model	Brand	Model	Series	Operation	kVA	kW	A
JCP 1880	50	231/400	0.8	1500	PERKINS	4012-46TAG3A	JCBENERGY	JCB	450S	Standby	1.880,0	1.504,0	2.716,8
										Prime	1.709,1	1.367,3	2.469,8
										Continuous	1.196,4	957,1	1.728,8

- 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.

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

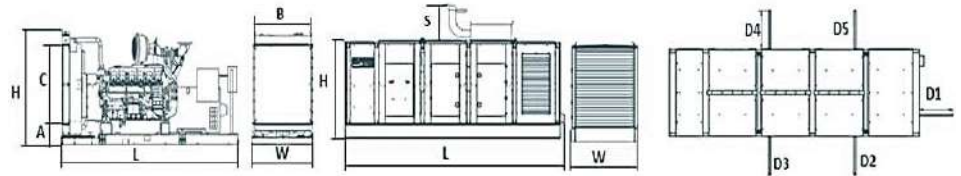
- \* Generators can work on Continuous Power at 70% of Prime power value if only all maintenances are done on time with original spare parts and high-quality oils that manufacturer advice.
- \* Generators should not operate below 50% of Prime Power value. In such a case, the engine will burn excessive 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	2200	2352
LENGTH	mm	5225	7883
HEIGHT	mm	2259	2706
WEIGHT (NET)	Kg	12036	17056
FUEL TANK CAPACITY	L	3000	3000

SYMBOL	OPEN	CANOPY
L	5225	7883
W	1800	2352
H	2255	2706
S		700
A	210	
B	2100	
C	1650	
D1		1044
D2		1044
D3		1044
D4		1044
D5		1044



PERCENT OF PRIME POWER	FUEL CONSUMPTION
	l/hr
110 %	403,11
100 %	362,79
75 %	269,48
50 %	176,16

## DIESEL ENGINE MAIN TECHNICAL PARAMETERS

GENERAL		
Number of Cylinders		12
Configuration		Vee 60°
Aspiration		Turbo Charged & Intercooled
Combustion System		Direct injection
Compression Ratio		13:1
Bore	mm	160
Stroke	mm	190
Displacement	L	45,842
Governing Type		Electronic
Governing Class		G3
Rotation		Counterclockwise
Firing Order		1A,6B,5A,2B,3A,4B,6A,1B,2A,5B.4A,3B
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	2X8,2
Alternator Output Amperes	A	40
Alternator Output Voltage	V	28
Batteries Capacity	Ah	4X200
FAN		
Diameter	mm	1740
Drive Ratio		0.80:1
Number of Blades		12
Material		Aluminum
Type		Blowing
COOLING SYSTEM		
Radiator Type	50°C	Tropical
Total Coolant Capacity	L	210
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 <sup>3</sup> /h	17,00
Min. Pressure Before Coolant Pump	bar	0,5
Radiator Face Area	m <sup>2</sup>	3,46
Rows	Row	4
Matrix Density	Per / Inch	12
Material		Aluminum
Width of Matrix	mm	2100
Height of Matrix	mm	1650
Pressure Cap Setting	kPa	70
Estimated Cooling Air Flow Reserve	kPa	0,125
Engine Pre Heater-Tube (with Circulation Pump)	W	2X3000

## DIESEL ENGINE MAIN TECHNICAL PARAMETERS

LUBRICATION SYSTEM		
Total System	L	177
Minimum Oil Level	L	136
Nominal Motor Operating Temperature	°C	40
Lubricating Oil Pressure (Rated Speed)	bar	4
Relief Valve Opens	kPa	340
Oil / Fuel Consumption Ratio	%	0,52
Normal Oil Temperature	°C	105

## DIESEL ENGINE MATCHING PARAMETERS - 50 HZ

50 HZ @ 1500 R/MIN		STAND BY
Gross Engine Power	kW	1643,0
Net Engine Power	kW	1583,0
Fan Power Consumption (Belt Pulley Driven)	kW	60,0
Other Power Loss	kW	-
Mean Effective Pressure	MPa	2859,00
Intake Air Flow	m <sup>3</sup> / min	135,00
Exhaust Temperature Limit	°C	480
Exhaust Flow	m <sup>3</sup> / min	350,00
Boost Pressure Ratio		123,00
Mean Piston Speed	m / s	9,5
Cooling Fan Air Flow	m <sup>3</sup> / min	2220,0
Typical Generator Output Power	kVA	1880
HEAT REJECTION		STAND BY
Energy in Fuel (Heat of Combustion)	kW	4100,0
Gross Heat to Power	kW	1643,0
Energy to Coolant and Lubricating Oil	kW	625,0
Energy to Exhaust	kW	1219,0
Heat to Radiation	kW	123,0

## ALTERNATOR 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

## ALTERNATOR SPECIFICATIONS

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

STANDARD USING ALTERNATOR

OPTIONAL USING ALTERNATOR

BRAND/MODEL		JCB 450S		LSA 52.3S5		P7 E			
DUTY			Continuous			Stand By			
AMBIENT	C°		40°C			27°C			
CLASS / TEMP. RISE	C°		H/ 125° K			H/ 163° K			
SERIES STAR	V	<b>380/220</b>	400/231	<b>415/240</b>	1 Phase	<b>380/220</b>	400/231	<b>415/240</b>	1 Phase
PARALLEL STAR	V	<b>190/110</b>	200/115	<b>208/120</b>	220	<b>190/110</b>	200/115	<b>208/120</b>	220
SERIES DELTA	V	<b>220</b>	230	<b>240</b>	230	<b>220</b>	230	<b>240</b>	230
OUTPUT POWER	kVA	<b>1750,0</b>	1750,0	<b>1816,0</b>	-	<b>1925,0</b>	1925,0	<b>1997,0</b>	-
OUTPUT POWER	kW	<b>1400,0</b>	1400,0	<b>1453,0</b>	-	<b>1540,0</b>	1540,0	<b>1598,0</b>	-

### 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		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 °C
- 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 Quality Certificates

**Certificate of Registration** 

This is to certify that the Quality Management System of

**JCBENERGY**

JCB ENERGY ELECTRIC POWER INDUSTRY  
CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

is in accordance with the requirements of the following standard

**ISO 9001:2015**  
(Quality Management System)

**SCOPE**

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES  
(IAF Code: 18,19)

Certificate Number: 251622013422

Initial Registration Date: 25-Oct-2023  
1<sup>st</sup> Surveillance Date: 25-Sep-2024  
2<sup>nd</sup> Surveillance Date: 25-Sep-2025  
Certificate Expiry Date: 24-Oct-2028

To verify certificate, visit at:  
[www.arscert.com/](https://www.arscert.com/)  
<https://www.iafcertification.org>  
<https://www.iafcertsearch.org/>

Issued by ARS Assessment Private Limited  
Managing Director

IAF Address: 471, North Center Dr., STE 202, Norfolk, VA 23502, United States of America

**Certificate of Registration** 

This is to certify that the Environmental Management System of

**JCBENERGY**

JCB ENERGY ELECTRIC POWER INDUSTRY  
CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

is in accordance with the requirements of the following standard

**ISO 14001:2015**  
(Environmental Management System)

**SCOPE**

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES  
(IAF Code: 18,19)

Certificate Number: 25162202423

Initial Registration Date: 25-Oct-2023  
1<sup>st</sup> Surveillance Date: 25-Sep-2024  
2<sup>nd</sup> Surveillance Date: 25-Sep-2025  
Certificate Expiry Date: 24-Oct-2028

To verify certificate, visit at:  
[www.arscert.com/](https://www.arscert.com/)  
<https://www.iafcertification.org>  
<https://www.iafcertsearch.org/>

Issued by ARS Assessment Private Limited  
Managing Director

IAF Address: 471, North Center Dr., STE 202, Norfolk, VA 23502, United States of America

**CERTIFICATE OF REGISTRATION** 

This is to certify that the Management System of

**JCBENERGY**

JCB ENERGY ELECTRIC POWER INDUSTRY  
CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

is in accordance with the requirements of the following standard

**ISO 27001:2013**  
(Information Security Management System)

**SCOPE OF CERTIFICATION**

PROTECTION OF RECORDS AND INFORMATION ASSETS IN MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES

Certificate Number: QCAS-JCB-23-05158813

Initial Certification Date: 25 Oct 2023      Date of Expiry: 24 Oct 2028  
1st Surveillance Date: 25 Sep 2024      2nd Surveillance Date: 25 Sep 2025

Verify the Certificate: <https://gaafs.us/site/search/>

Issued by QCAS Certifications Inc.  
Managing Director

QCAS Address: 4000, Regatta Avenue, #100, Norfolk, VA 23502, United States of America

**Certificate of Registration** 

This is to certify that the Occupational Health and Safety Management System of

**JCBENERGY**

JCB ENERGY ELECTRIC POWER INDUSTRY  
CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

is in accordance with the requirements of the following standard

**ISO 45001:2018**  
(Occupational Health and Safety Management System)

**SCOPE**

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES  
(IAF Code: 18,19)

Certificate Number: 251622013424

Initial Registration Date: 25-Oct-2023  
1<sup>st</sup> Surveillance Date: 25-Sep-2024  
2<sup>nd</sup> Surveillance Date: 25-Sep-2025  
Certificate Expiry Date: 24-Oct-2028

To verify certificate, visit at:  
[www.arscert.com/](https://www.arscert.com/)  
<https://www.iafcertification.org>  
<https://www.iafcertsearch.org/>

Issued by ARS Assessment Private Limited  
Managing Director

IAF Address: 471, North Center Dr., STE 202, Norfolk, VA 23502, United States of America

**CERTIFICATE OF REGISTRATION** 

This is to certify that the Management System of

**JCBENERGY**

JCB ENERGY ELECTRIC POWER INDUSTRY  
CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

is in accordance with the requirements of the following standard

**ISO 50001:2018**  
(Energy Management System)

**SCOPE OF CERTIFICATION**

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES

Certificate Number: QCAS-JCB-23-05158814

Initial Certification Date: 25 Oct 2023      Date of Expiry: 24 Oct 2028  
1st Surveillance Date: 25 Sep 2024      2nd Surveillance Date: 25 Sep 2025

Verify the Certificate: <https://gaafs.us/site/search/>

Issued by QCAS Certifications Inc.  
Managing Director

QCAS Address: 4000, Regatta Avenue, #100, Norfolk, VA 23502, United States of America



# JCB Energy Electric Power Industry S.L.

HAS OUR TOTAL SUPPORT

We are pleased to certify that this company, with its registered office (address as below), is fully authorized as an Original Equipment Manufacturer (as per the incorporation Mecc Alte) all generators when selling and distributing generating sets.  
Mecc Alte also certifies that its products sold to this company are fully covered by the Mecc Alte Warranty.  
Mecc Alte provides this company access to its extensive product knowledge in order to incorporate Mecc Alte AC Inverters when selling and distributing generating sets.

World class alternators 1-5000kVA

APPROVED MANUFACTURER

Rafael Muñoz

CERTIFICADO MANUFACTURER

VALIDADURA 29 December 2023

EDIFICIO ADDRESS  
C/AV. DE TRESPADERNE, 7, P.O. 28042, MADRID, SPAIN



POWER FROM WITHIN



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

#### GDP

The scope of activities covered by this certificate is defined below

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES

Certificate Number : GCR CERT-41.2023.3586  
Certificate Issue Date : 01.11.2023  
Certificate Validity : 31.10.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval



For additional information on the scope of activities covered by this certificate, visit our website at [www.gcr-cert.com](http://www.gcr-cert.com)  
GCR CERT is a registered trademark of GCR CERTIFICATION SERVICES LTD. All rights reserved. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987.



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

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES

Certificate Number : GCR CERT-41.2023.3587  
Certificate Issue Date : 01.11.2023  
Certificate Validity : 31.10.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval



For additional information on the scope of activities covered by this certificate, visit our website at [www.gcr-cert.com](http://www.gcr-cert.com)  
GCR CERT is a registered trademark of GCR CERTIFICATION SERVICES LTD. All rights reserved. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987.



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

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES

Certificate Number : GCR CERT-41.2023.3585  
Certificate Issue Date : 01.11.2023  
Certificate Validity : 31.10.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval



For additional information on the scope of activities covered by this certificate, visit our website at [www.gcr-cert.com](http://www.gcr-cert.com)  
GCR CERT is a registered trademark of GCR CERTIFICATION SERVICES LTD. All rights reserved. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987.



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 certified 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-41.2023.3600  
Certificate Issue Date : 01.11.2023  
Certificate Validity : 06.11.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval



For additional information on the scope of activities covered by this certificate, visit our website at [www.gcr-cert.com](http://www.gcr-cert.com)  
GCR CERT is a registered trademark of GCR CERTIFICATION SERVICES LTD. All rights reserved. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987.



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

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES

Certificate Number : GCR CERT-41.2023.3525  
Certificate Issue Date : 25.10.2023  
Certificate Validity : 24.10.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval



For additional information on the scope of activities covered by this certificate, visit our website at [www.gcr-cert.com](http://www.gcr-cert.com)  
GCR CERT is a registered trademark of GCR CERTIFICATION SERVICES LTD. All rights reserved. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987. GCR CERTIFICATION SERVICES LTD. is a company registered in England and Wales, registered number 10428987.





[www.jcbenergy.es](http://www.jcbenergy.es)