

# JCB ENERGY ELECTRIC POWER INDUSTRY

MADRID / SPAIN





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





#### **GENERATOR GENERAL INFORMATION**

GENERATOR	FREQUENCY	VOLTAGE	POWER FACTOR	SPEED	DIESEL ENGINE ALTERNATOR		TYPE OF	GENERATOR OUTPUT		т				
Model	Hz	V	Cos Q	Rpm	Brand	Model	Series	Brand	Model	Series	Operation	kVA	kW	А
							LCB			Standby	3.300,0	2.640,0	4.768,8	
JCN 3300	50	231/400	0.8	1500						500SX	Prime	3.000,0	2.400,0	4.335,3
						N Y4080JCI	MIL	- <u>U</u>	JCB	Continuous	2.100,0	1.680,0	3.034,7	
					JCN		OJCI YII	JCB			Standby	3.300,0	2.640,0	4.768,8
JCN 3300	60	277/480	0.8	1800						450L	Prime	3.000,0	2.400,0	4.335,3
											Continuous	2.100,0	1.680,0	3.034,7

<ul> <li>Diesel Engines with Advanced Technology and Quality</li> </ul>	<ul> <li>Tropical 50 °C Radiator, First Class Product Support</li> </ul>
<ul> <li>Alternators with Advanced Technology and Quality</li> </ul>	<ul> <li>Fuel Filter with Water and Particle Separator</li> </ul>
<ul> <li>Low Exhaust Emission</li> </ul>	<ul> <li>Low Fuel Consumption, Low Oil Consumption</li> </ul>
<ul> <li>Control Panel Suitable for Flexible Application</li> </ul>	<ul> <li>Global Technical Service and Maintenance Support</li> </ul>
<ul> <li>Patented Compact Designed and Sound proof Canopy</li> </ul>	<ul> <li>Wide Range of Affordable Spare Parts</li> </ul>
<ul> <li>Low Operating Cost, Suitable for Heavy-Duty</li> </ul>	<ul> <li>High Quality and Reliable Technology</li> </ul>
<ul> <li>Durability, Low Noise Level</li> </ul>	<ul> <li>Half Century Experience in Generator Manufacturing</li> </ul>

#### **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.

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**

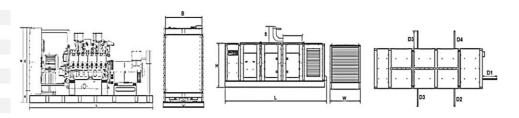




VALUES		OPEN TYPE GENERATOR	CANOPY TYPE GENERATOR
WIDTH	mm	2400	2430
LENGTH mm		7500	12000
HEIGHT	mm	3100	3300
WEIGHT (NET)	Kg	19500	26500
FUEL TANK CAPACITY	L	6000	6000

SYMBOL	OPEN	CANOPY
L	7500	12000
W	2400	2430
н	3100	2500
S		800
Α	300	
В	2260	
С	2400	
D1		1044
D2		1044
D3		1044
D4		1044
D5		1044

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#### **FUEL CONSUMPTION**

PERCENT OF PRIME POWER	1500 rpm	1800 rpm
	l/hr	l/hr
110 %	656,16	656,16
100 %	601,63	601,63
75 %	453,49	453,49
50 %	317,44	317,44



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

GENERAL		
Number of Cylinders		16
Configuration		V-Type
Aspiration		Turbocharged & Intercooled
Combustion System		Direct Injection
Compression Ratio		13.5:1
Bore	mm	200
Stroke	mm	210
Displacement	L	105,56
	L	ECU
Governing Type		
Governing Class		G3
Rotation		Counterclockwise
Firing Order		L1-R1-L6-R6-L2-R2-L5-R5-L8-R8-L3-R3-L7- R7-L4-R4
Emission		Tier II
Moments of Rotation Inertia		
Engine	Kg - m²	44,42
Flywheel	Kg - m²	29,36
Performance Rating		
Speed Droop	%	≤1
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	КРа	100
Relative Humidity	Rh (%)	30
Max. Operating Intake Resistance	КРа	<5
Max. Operating intake resistance	NF d	$\sim$
Exhaust Backprosouro Limit		<10
Exhaust Backpressure Limit	КРа	<10
Fuel Temperature (Fuel Inlet Pump)		<10 38±2
Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS	KPa ℃	38±2
Fuel Temperature (Fuel Inlet Pump)	КРа	
Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS Length* Width Height	KPa °C mm mm mm mm	38±2 3834 1913 2367
Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS Length* Width Height Dry Weight	KPa ℃ mm mm	38±2 3834 1913
Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS Length* Width Height Dry Weight *From front end of radiator to near end of air filter	KPa °C mm mm mm mm	38±2 3834 1913 2367
Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS Length* Width Height Dry Weight *From front end of radiator to near end of air filter FAN	KPa °C mm mm mm kg	38±2 3834 1913 2367 13180
Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS Length* Width Height Dry Weight *From front end of radiator to near end of air filter FAN Diameter	KPa °C mm mm mm mm	38±2 3834 1913 2367 13180 1900
Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS Length* Width Height Dry Weight *From front end of radiator to near end of air filter FAN Diameter Drive Ratio	KPa °C mm mm mm kg	38±2 3834 1913 2367 13180 1900 1,26:1
Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS Length* Width Height Dry Weight *From front end of radiator to near end of air filter FAN Diameter	KPa °C mm mm mm kg	38±2 3834 1913 2367 13180 1900



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

COOLING SYSTEM		
Radiator Type	50ºC	Tropical
Total Coolant Capacity	L	325
Max. Perm. Coolant Outlet Temperature	ΩC	105
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	75
Thermostat Operation Temperature - Full Open	°C	85
Delivery of Coolant Pump	m ³/ h	20,83
Min. Pressure Before Coolant Pump	bar	0,5
Radiator Face Area	m²	6,44
Rows	Row	9
Matrix Density	Per / Inch	12
Material		Aluminum
Width of Matrix	mm	2260
Height of Matrix	mm	2850
Pressure Cap Setting	kPa	50
Estimated Cooling Air Flow Reserve	kPa	0,125
Engine Pre Heater-Tube (with Circulation Pump)	W	2x7500
LUBRICATION SYSTEM		
Total System	L	430
Minimum Oil Level	L	370
Nominal Motor Operating Temperature	°C	40
Lubricating Oil Pressure (Rated Speed)	bar	7
Relief Valve Opens	kPa	200
Oil / Fuel Consumption Ratio	%	≤0,25
Normal Oil Temperature	ΩC	110
ELECTRICAL SYSTEM		
Voltage	V	24
Starter	kW	2X11
Alternator Output Ampers	А	60
Alternator Output Voltage	V	28
Batteries Capacity	Ah	4X200



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#### JCB ENERGY DIESEL ENGINE POWER RATINGS

ENGINE MODEL	Y4080JCI		ENGINE FAMILY	JC67	ENGINE SERIE	S YII	
		TYPICAL GENERATOR OUTPUT (NET)		ENGINE POWER			
Speed (Rpm)	Type of Operation			Gr	oss	Net	
		kVA	kWe	KWm	Нр	kWm	Нр
1500	Stand By(Maximum)	3.302,0	2.642,0	2.850,0	3.825,5	2.752,0	3.694,0
	Prime	3.002,0	2.402,0	2.600,0	4.489,9	2.502,0	3.358,4
1800	Stand By(Maximum)	3.302,0	2.642,0	2.850,0	3.825,5	2.752,0	3.694,0
	Prime	3.002,0	2.402,0	2.600,0	4.489,9	2.502,0	3.358,4

### DIESEL ENGINE MATCHING PARAMETERS - 50 HZ

50 HZ @ 1500 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	2850,0	2600,0
Net Engine Power	kW	2752,0	2502,0
Fan Power Consumption (Belt Pulley Driven)	kW	93,0	93,0
Other Power Loss	kW	5,0	5,0
Mean Effective Pressure	MPa	2,16	1,97
Intake Air Flow	m ³ / min	231,00	220,00
Exhaust Temperature Limit	ōC	570	550
Exhaust Flow	m ³/ min	553,00	506,00
Boost Pressure Ratio		3,59	3,50
Mean Piston Speed	m / s	10,5	10,5
Cooling Fan Air Flow	m ³/ min	4200,0	4200,0
Typical Generator Output Power	kVA	3302	3002
HEAT REJECTION		STAND BY	PRIME
Energy in Fuel (Heat of Combustion)	kW	7156,0	6427,0
Gross Heat to Power	kW	2850,0	2600,0
Energy to Coolant and Lubricating Oil	kW	1000,0	900,0
Heat Dissipation Capacity *	kW	1160,0	1050,0
Energy to Exhaust	kW	1935,0	1682,0
Heat to Radiation	kW	211,0	195,0
*Intake Intercooled system			



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#### **DIESEL ENGINE MATCHING PARAMETERS - 60 HZ**

50 HZ @ 1800 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	2850,0	2600,0
Net Engine Power	kW	2752,0	2502,0
Fan Power Consumption (Belt Pulley Driven)	kW	93,0	93,0
Other Power Loss	kW	5,0	5,0
Mean Effective Pressure	MPa	2,16	1,97
ntake Air Flow	m ³ / min	231,00	220,00
Exhaust Temperature Limit	°C	570	550
Exhaust Flow	m ³ / min	553,00	506,00
Boost Pressure Ratio		3,59	3,50
Mean Piston Speed	m / s	10,5	10,5
Cooling Fan Air Flow	m <sup>3</sup> / min	4200,0	4200,0
Typical Generator Output Power	kVA	3302	3002
HEAT REJECTION		STAND BY	PRIME
Energy in Fuel (Heat of Combustion)	kW	7156,0	6427,0
Gross Heat to Power	kW	2850,0	2600,0
Energy to Coolant and Lubricating Oil	kW	1000,0	900,0
Heat Dissipation Capacity *	kW	1160,0	1050,0
Energy to Exhaust	kW	1935,0	1682,0
Heat to Radiation	kW	211,0	195,0
*Intake Intercooled system			

#### JCB ALTERNATOR TECHNICAL PARAMETERS AND SPECIFICATIONS



ALTERNATOR TECHNIC	ALTERNATOR TECHNICAL PARAMETERS							
Insulation Class		Н	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.	3,25	Wave Form: I.E.C. = THF - (*)	%	< 1.5			
Bearing Drive	N/A	-	Bearing Non-Drive	Bearing	6320-2RZ			
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** JCB 500SX BRAND/MODEL **JCBENERGY**<sup>®</sup> LSA 53.2M9 AVK DSG99K1/4 LEROY-SOMER **STAMFORD** DUTY Continuous Stand By AMBIENT C° 40°C 27°C C° **CLASS / TEMP. RISE** H/ 125° K H/ 163° K **SERIES STAR** 380/220 400/231 415/240 1 Phase 380/220 400/231 415/240 1 Phase V PARALLEL STAR ٧ 190/110 200/115 208/120 220 190/110 200/115 208/120 220 SERIES DELTA V 220 230 240 230 220 230 240 230 **OUTPUT POWER** kVA 3000,0 3000,0 3060,0 -3300,0 3300,0 3366,0 \_ **OUTPUT POWER** kW 2400,0 2400,0 2448,0 2640,0 2640,0 2692,8

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

STANDARD USING ALTERNATOR				OPTIONAL USING ALTERNATOR					
BRAND/MODEL	JCBENERGY	JCB 450L		LEROY-S		A 52.3L2	STAMFO	ORD	S7L1D-J4
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	3000,0	3000,0	3060,0	-	3300,0	3300,0	3366,0	-
OUTPUT POWER	kW	2400,0	2400,0	2448,0	-	2640,0	2640,0	2692,8	-

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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)



- Powder Painted Steel Panel with Lockable Door
- ATS (Automatic Transfer Panel) Optional
- o Control Module
- Battery Charger
- Emergency Stop Button
- Terminal Blocks
   Load Output Terminal
   System Protection MSBs
   Circuit Breaker-Optional
- o LCD Screen
- Control Relays
- o Backlit, 128x64 Pixel

#### **CONTROL MODULE TECHNICAL PARAMETERS**

**CONTROL PANEL SPECIFICATIONS** 

Brand	JCBENERGY	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	<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
- o 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
- o Internal Exhaust Mufflers (Silencers)
- o External Exhaust Mufflers (Silencers)
- Radiator water Filling Cap
- Daily Fuel Tank, External Fuel Tank

# **Our Quality Certificates**

Certificate of Registration a		Certificate of Registration 👝		
This is to certify that the Quality Management System of		This is to certify that the Environmental Management System of		
JEBENERGY		JEBENERGY		
JCB ENERGY ELECTRIC POWER INDUSTRY		JCB ENERGY ELECTRIC POWER INDUSTRY		
CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN		CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAN		
is in accordance with the requirements of the following standard		is in accordance with the requirements of the following standard		
ISO 9001:2015 (Quality Management System)		ISO 14001:2015 (Environmental Management System)		
SCOPE		SCOPE		
RATOR AND GENERATOR COMPLEMENTS, WERTERS, SHUTTER POWER SUPPLIES				
(AF Code: 18,19)		(AF Code: 18,19)		
hital Registration Date : 35-Sec-3020 11 Schwellizero Date : 35-Sec-3024 27 Schwellizero Date : 35-Sec-3025 Centicute Expty Date : 34-Sec-3026	Centices Number: 2010/2020	initial Registration Data : 25-047-0828 1" Serveillance Data : 25-047-2828 2" Surveillance Data : 25-549-2828 Centicute Euply Data : 24-047-828		
Attps://www.lafcertsearch.org/ Issued by ARS Assessment Private Limited		Issued by ARS Assessment Private Limited		
Managing Director		-Managing Director		
	anagement System of COWER INDUSTRY TA C 20042 MADRID - (MADRID), SPAIN ts of the following standard 2015 mt System) AND GENERATOR COMPLEMENTS, NEATOR AND GENERATOR COMPLEMENTS, NEATOR	enagement System of RECEV OWER INDUSTRY TA C 2004E MADRID (MADRID]. SPAN ts of the following standard 20155 mt System) Market Control Contro		







Certificate

#### JEBENERGY

JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM ? PLANTA 3, PUERTA C 28642 MADRID - (MADRID), SPAIN

In reception of the organization's Managements System which complex with

ISO 22716:2013:GMP GOOD MANUFACTURING PRACTICES The scope of methodise control by this conflictor is defined below

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

Confficute Number : GCR/CERT-11.2023.3585 Confficute Fund Date : 01.11.2023 Confficute Fadialty : 31.31.2024

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Approval





Certificate

#### HEALTHY & SAFE

WORKPLACE CERTIFICATE

JCB ENERGY ELECTRIC POWER INDUSTRY

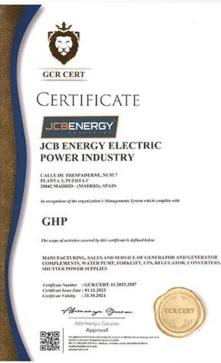
CALLE DE TRESPADERNE, NUN 7 PLANTA & PETRETA C 2006 MARDING - OADBRIDS, PAIN B has been entried to obtain a Healthy and Sele Workslase Conflicts by fulfiling the regimements for COVI-55 measures, within the physical conditions of the Dubries with in the regime of the Nealthy and Sele Workslase Ended on the Dubries

FACTORIES - PRODUCTION LOCATIONS: ELECTRICAL AND ELECTRONICS INDUSTRY

Certifican Number : GCR:CERT-11.2023.3650 Certifican Inac Date : 07.31.2023 Certifican Fullity : 06.31.2024













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