JCB ENERGY ELECTRIC POWER INDUSTRY

MADRID / SPAIN

-VERTA-106188
-VERTA-106189

www.jcbenergy.com

JCN 16 & 19

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

60 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 16	50	231/400	0.8	1500	JCN	E20C	EII	JOENERGY	JCB	160M	**Standby**	**16,0**	**12,8**	**23,1**
											Prime	14,5	11,6	21,0
											Continuous	10,2	8,1	21,0
JCN 19	60	277/480	0.8	1800							**Standby**	**19,0**	**15,2**	**27,5**
											Prime	17,3	13,8	25,0
											Continuous	12,1	9,7	17,5

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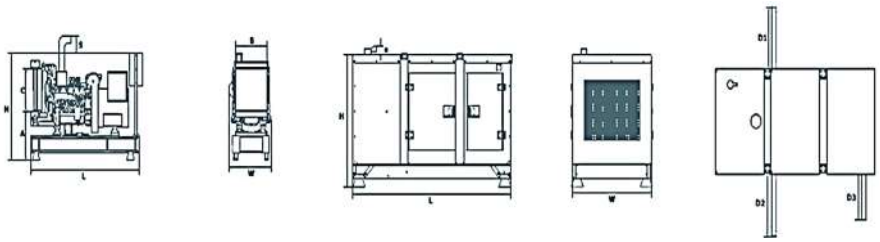
PAY ATTENTION TO THE POINTS BELOW IN PICKING AND USING THE GENERATOR

* 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	597	1000
LENGTH	mm	1400	2000
HEIGHT	mm	1309	1190
WEIGHT (NET)	Kg	525	660
FUEL TANK CAPACITY	L	58	100

SYMBOL	OPEN	CANOPY
L	1400	2000
W	597	1000
H	871	1290
S	438	80
A	438	
B	438	
C	480	
D1		828
D2		828
D3		450
D4		
D5		



FUEL CONSUMPTION

PERCENT OF PRIME POWER	1500 rpm	1800 rpm
	l/hr	l/hr
110 %	4,15	4,98
100 %	3,77	4,53
75 %	2,90	3,48
50 %	2,07	2,49

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DIESEL ENGINE MAIN TECHNICAL PARAMETERS

GENERAL		
Number of Cylinders		4
Configuration		Vertical, In Line
Aspiration		Naturally
Combustion System		Direct Injection
Compression Ratio		19.1:1
Bore	mm	85
Stroke	mm	100
Displacement	L	2,27
Governing Type		Mechanic
Governing Class		G2
Rotation		Counter clockwise
Firing Order		1-3-4-2
Emission		Tier II
Moments of Rotation Inertia		
Engine	Kg - m²	0,44
Flywheel	Kg - m²	2,55
Performance Rating		
Speed Droop	%	≤3
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)	4
Flex Coupling Disc	Inch (“)	7,5
TEST CONDITIONS		
Ambient Temperature	%	25
Atmospheric Pressure	KPa	100
Relative Humidity	Rh (%)	30
Max. Operating Intake Resistance	KPa	5
Exhaust Backpressure Limit	KPa	5
Fuel Temperature (Fuel Inlet Pump)	°C	38±2
OVERALL DIMENSIONS		
Length*	mm	1087
Width	mm	597
Height	mm	749
Dry Weight	kg	275
***From front end of radiator to near end of air filter**		
FAN		
Diameter	mm	410
Drive Ratio		1,61:1
Number of Blades		7
Material		Plastic
Type		Blowing

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DIESEL ENGINE MAIN TECHNICAL PARAMETERS

COOLING SYSTEM		
Radiator Type	50ºC	Tropical
Total Coolant Capacity	L	13
Max. Perm. Coolant Outlet Temperature	ºC	103
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	68
Thermostat Operation Temperature - Full Open	ºC	72
Delivery of Coolant Pump	m^3/h	1,60
Min. Pressure Before Coolant Pump	bar	0,15
Radiator Face Area	m^2	0,21
Rows	Row	2
Matrix Density	Per / Inch	15,5
Material		Aluminum
Width of Matrix	mm	438
Height of Matrix	mm	480
Pressure Cap Setting	kPa	90
Estimated Cooling Air Flow Reserve	kPa	0,125
Engine Pre Heater-Tube (with Circulation Pump)	W	1500
LUBRICATION SYSTEM		
Total System	L	8
Minimum Oil Level	L	7
Nominal Motor Operating Temperature	ºC	40
Lubricating Oil Pressure (Rated Speed)	bar	5
Relief Valve Opens	kPa	352
Oil / Fuel Consumption Ratio	%	≤ 0,3
Normal Oil Temperature	ºC	110
ELECTRICAL SYSTEM		
Voltage	V	12
Starter	kW	3,2
Alternator Output Ampers	A	25
Alternator Output Voltage	V	14
Batteries Capacity	Ah	55

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JCB ENERGY DIESEL ENGINE POWER RATINGS

ENGINE MODEL	E20C	ENGINE FAMILY	JC11	ENGINE SERIES	EII

Speed (Rpm)	Type of Operation	TYPICAL GENERATOR OUTPUT (NET)		ENGINE POWER			
				Gross		Net	
		kVA	kWe	KWm	Hp	kWm	Hp
1500	Stand By(Maximum)	16,5	13,2	17,5	23,5	15,5	20,8
	Prime	15,3	12,2	15,9	21,3	14,4	19,3
1800	Stand By(Maximum)	19,9	15,9	21,0	28,2	18,7	25,1
	Prime	18,4	14,7	19,1	25,6	17,3	23,2

DIESEL ENGINE MATCHING PARAMETERS - 50 HZ

50 HZ @ 1500 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	17,5	11,5
Net Engine Power	kW	15,5	10,0
Fan Power Consumption (Belt Pulley Driven)	kW	1,5	1,5
Other Power Loss	kW	0,5	0,0
Mean Effective Pressure	MPa	0,62	0,41
Intake Air Flow	m^3 / min	1,25	1,25
Exhaust Temperature Limit	ºC	300	300
Exhaust Flow	m^3/ min	1,30	1,15
Boost Pressure Ratio		2,90	1,98
Mean Piston Speed	m / s	5,0	5,0
Cooling Fan Air Flow	m^3/ min	46,6	46,6
Typical Generator Output Power	kVA	17	15
HEAT REJECTION		**STAND BY**	**PRIME**
Energy in Fuel (Heat of Combustion)	kW	51,9	45,2
Gross Heat to Power	kW	17,5	15,9
Energy to Coolant and Lubricating Oil	kW	16,6	14,4
Heat Dissipation Capacity *	kW	-	-
Energy to Exhaust	kW	14,1	11,9
Heat to Radiation	kW	3,7	3,0

*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	21,0	19,1
Net Engine Power	kW	18,7	17,3
Fan Power Consumption (Belt Pulley Driven)	kW	1,8	1,8
Other Power Loss	kW	0,5	0,5
Mean Effective Pressure	MPa	0,62	0,56
Intake Air Flow	m ³ / min	1,50	1,50
Exhaust Temperature Limit	ºC	360	360
Exhaust Flow	m ³ / min	1,57	1,38
Boost Pressure Ratio		3,50	3,20
Mean Piston Speed	m / s	6,0	6,0
Cooling Fan Air Flow	m ³ / min	55,9	55,9
Typical Generator Output Power	kVA	20	18
HEAT REJECTION		**STAND BY**	**PRIME**
Energy in Fuel (Heat of Combustion)	kW	61,4	52,1
Gross Heat to Power	kW	21,0	17,3
Energy to Coolant and Lubricating Oil	kW	19,9	17,3
Heat Dissipation Capacity *	kW	-	-
Energy to Exhaust	kW	16,9	14,3
Heat to Radiation	kW	3,5	3,2

*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	SX460
Wires		12	Voltage Regulation	%	± 1
Protection		IP 23	Sustained Short-Circuit Current	10 sec	300% (3 IN)
Altitude	m	1000	Total Harmonic (*) TGH / THC	%	< 5
Overspeed	rpm	2250	Wave Form: NEMA = TIF - (*)		< 50
Air Flow	m³/sec.	0.071	Wave Form: I.E.C. = THF - (*)	%	< 2
Bearing Drive	N/A	-	Bearing Non-Drive	Bearing	6306-2RZ
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	JCB 160M			LEROY-SOMER TAL040D			STAMFORD SOL1P		
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	**15,0**	15,0	**16,0**	8,3	**16,5**	16,5	**17,5**	11,0
OUTPUT POWER	kW	**12,0**	12,0	**12,8**	6,6	**13,2**	13,2	**14,0**	8,8

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

STANDARD USING ALTERNATOR						OPTIONAL USING ALTERNATOR			
BRAND/MODEL	JCB 160M			LEROY-SOMER TAL040D			STAMFORD PIO44G-SOL1-P		
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	**18,0**	19,0	**19,0**	12,6	**20,0**	21,0	**21,0**	14,0
OUTPUT POWER	kW	**14,4**	15,2	**15,2**	10,1	**16,0**	16,8	**16,8**	11,2

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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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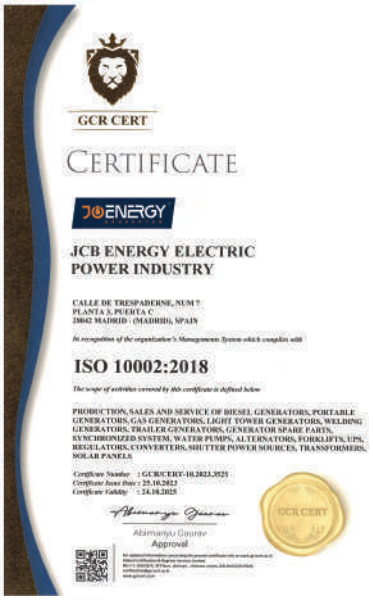
OUR CERTIFICATES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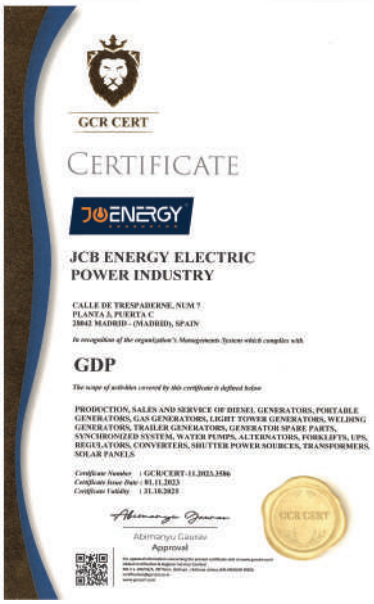
JCB ENERGY ELECTRIC POWER INDUSTRY

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

ISO 10002:2018

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

Abimanyu Gaurav
Approval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PLANTA 3, PUERTA C
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GDP

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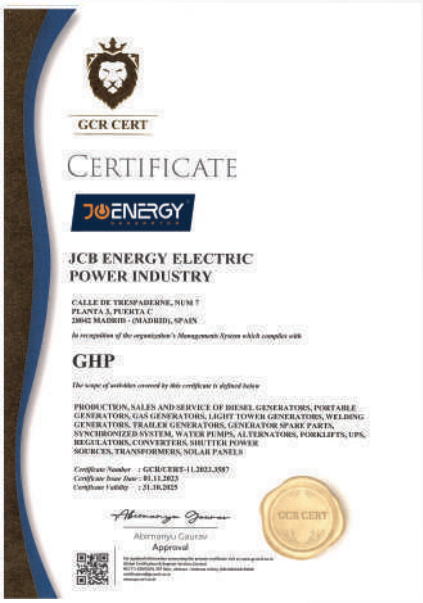
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GHP

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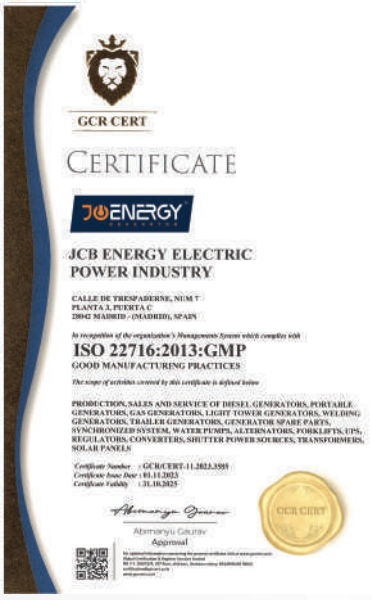
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CERTIFICATE

JCB ENERGY ELECTRIC POWER INDUSTRY

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

ISO 22716:2013:GMP
GOOD MANUFACTURING PRACTICES

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

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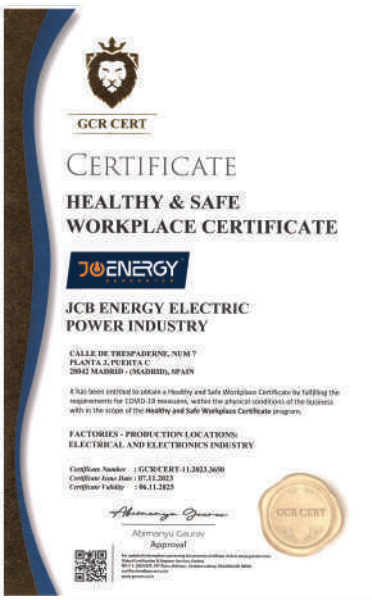
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CERTIFICATE

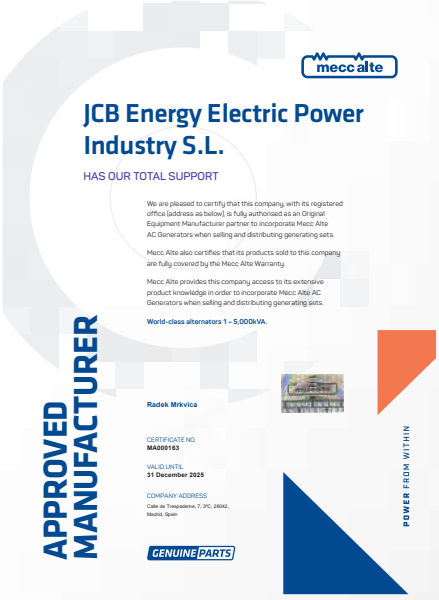
HEALTHY & SAFE WORKPLACE CERTIFICATE

JCB ENERGY ELECTRIC POWER INDUSTRY

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

FACTORIES - PRODUCTION LOCATIONS:
ELECTRICAL AND ELECTRONICS INDUSTRY

Abimanyu Gaurav
Approval


meccalte

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 authorised as an Original Equipment Manufacturer partner to incorporate Mecc Alte AC 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 Generators when selling and distributing generating sets.

World-class alternators 1 – 5,000kVA.

APPROVED MANUFACTURER

Radek Mrkvica

CERTIFICATE NO.
MA000163

VALID UNTIL
31 December 2025

COMPANY ADDRESS
Calle de Trespaderne, 7, 7PC, 28042, Madrid, Spain

GENUINE PARTS

POWER FROM WITHIN

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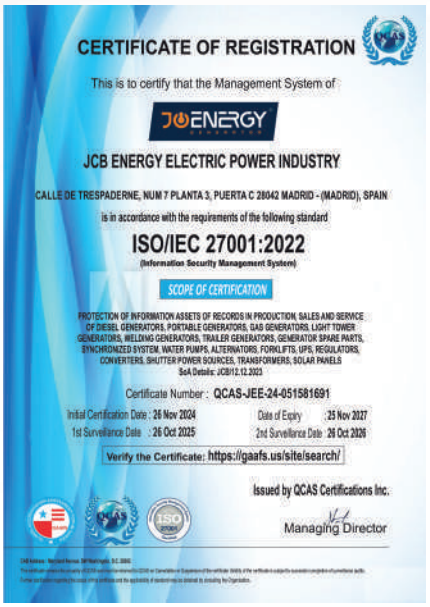

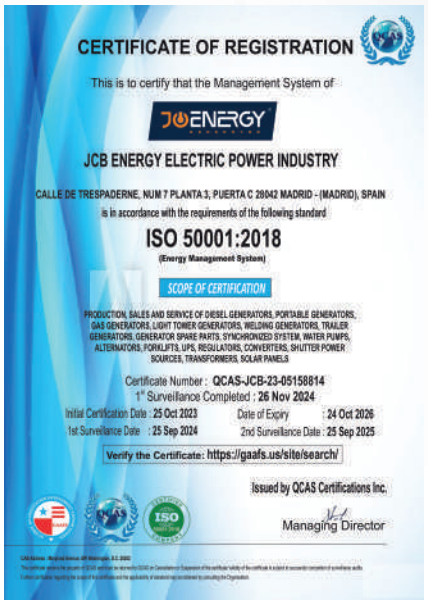

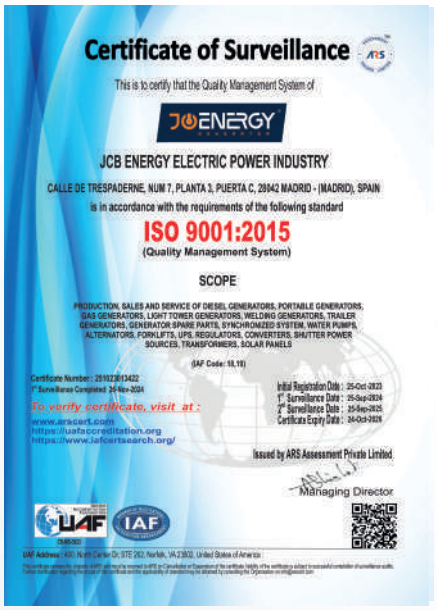

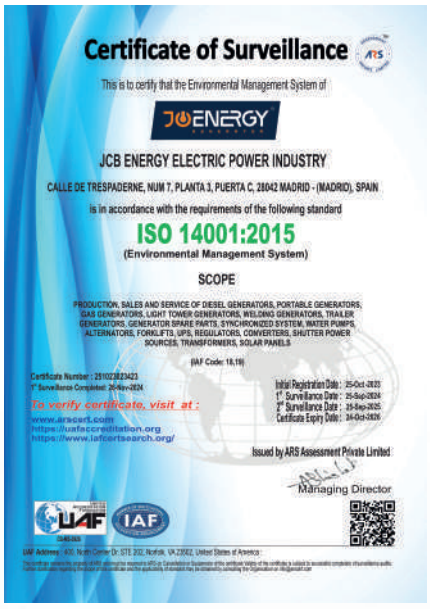

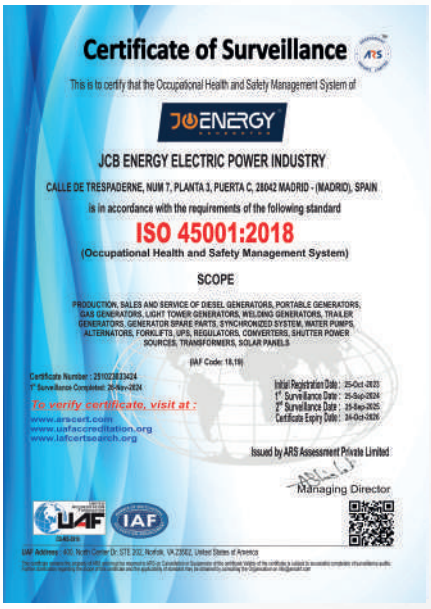

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DNV

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**

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REGISTRO GENERAL
SALIDA

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

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 Elsalem, con Número de Identidad Extranjero Y6048327P, para que actúe en nombre y representación de la mercantil, con cuantas facultades legal y estatutariamente corresponden 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

CE

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

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

Vertacert International

CE

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 Harmonised Standards : TSE K 195, TS ISO 8528-8, TS EN ISO 3744:2000
Geçerli Uyumlaştırılmış Standartlar

Sertifika Numarası / Certificate Number : VERTA-106189

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