# JCB ENERGY ELECTRIC POWER INDUSTRY

MADRID / SPAIN

JCBENERGY

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 INECO
 INECO
 IBaudouin
 Schneider
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231 / 400 V - 50 Hz & 277 / 480 V - 60 Hz





## **GENERATOR GENERAL INFORMATION**

GENERATOR	FREQUENCY	VOLTAGE	POWER FACTOR	SPEED	DIESEL E	NGINE		ALTERN	IATOR		TYPE OF	GENERA		PUT
Model	Hz	V	Cos Q	Rpm	Brand	Model	Series	Brand	Model	Series	Operation	kVA	kW	A
								Ľ			Standby	1.100,0	880,0	1.589,6
JCN 1100	50	231/400	0.8	1500					4	400M	Prime	1.000,0	800,0	1.445,1
						D12COLCI	рц	ENERG			Continuous	700,0	560,0	1.011,6
					JCN	B1360JCI	BII	Я	JCB	400S	Standby	1.240,0	992,0	1.791,9
JCN 1240	60	277/480	0.8	1800				ũ			Prime	1.127,3	901,8	1.629,0
								<u>,</u>			Continuous	789,1	631,3	1.140,3
• Diesel Engi	ines with Adva	nced Techno	ology and Q	uality			<ul> <li>Tropical 50 °C Radiator, First Class Product Support</li> </ul>							

• Dieser Engines with Advanced Teenhology and Quality	
<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

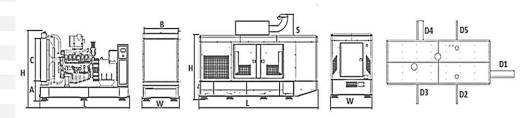




VALUES		OPEN TYPE GENERATOR	CANOPY TYPE GENERATOR		
WIDTH mm		1400	1942		
LENGTH	mm	4000	5166		
HEIGHT	mm	2188	2920		
WEIGHT (NET)	Kg	4667	5960		
FUEL TANK CAPACITY	L	1193	530		

SYMBOL	OPEN	CANOPY
L	4000	5166
W	1400	1942
н	2188	2282
S		638
Α	560	
В	1302	
С	1446	
D1		1057
D2		961
D3		961
D4		961
D5		961

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## **FUEL CONSUMPTION**

PERCENT OF PRIME POWER	1500 rpm	1800 rpm		
	l/hr	l/hr		
110 %	214,30	242,27		
100 %	197,82	222,44		
75 %	149,12	167,68		
50 %	100,43	112,92		



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## **DIESEL ENGINE MAIN TECHNICAL PARAMETERS**

GENERAL		
Number of Cylinders		12
Configuration		V-Туре
Aspiration		Turbocharged & Intercooled
Combustion System		Direct Injection
Compression Ratio		15.5:1
Bore	mm	128
Stroke	mm	155
Displacement	L	23,922
Governing Type	L	Electronic
Governing Class		G3
Rotation		Counterclockwise
Firing Order		1-12-5-8-3-10-6-7-2-11-4-9
Emission		
Emission Moments of Rotation Inertia		Tier II
	Ka m <sup>2</sup>	4 5 4
Engine	$Kg - m^2$	4,54
Flywheel	Kg - m²	2,1
Performance Rating	24	<i>1</i> 0 5
Speed Droop	%	≤0,5
Steady State Speed Band	%	≤0,5
FILTERS		
Air Filter		Dry Type, Replaceable
Fuel Filter		With Water Separator
Oil Filter		With Water Separator Element Type, Particulate Trap
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING		Element Type, Particulate Trap
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing	SAE (J620)	Element Type, Particulate Trap 1
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc	SAE (J620) Inch (")	Element Type, Particulate Trap
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc TEST CONDITIONS	Inch (")	Element Type, Particulate Trap 1 14
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc TEST CONDITIONS Ambient Temperature	Inch (") %	Element Type, Particulate Trap 1 14 25
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc TEST CONDITIONS	Inch (")	Element Type, Particulate Trap 1 14
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc TEST CONDITIONS Ambient Temperature Atmospheric Pressure Relative Humidity	Inch (") %	Element Type, Particulate Trap 1 14 25
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc TEST CONDITIONS Ambient Temperature Atmospheric Pressure	Inch (") % KPa	Element Type, Particulate Trap 1 14 25 100
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc TEST CONDITIONS Ambient Temperature Atmospheric Pressure Relative Humidity Max. Operating Intake Resistance Exhaust Backpressure Limit	Inch (") % KPa Rh (%) KPa KPa	Element Type, Particulate Trap
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc TEST CONDITIONS Ambient Temperature Atmospheric Pressure Relative Humidity Max. Operating Intake Resistance Exhaust Backpressure Limit Fuel Temperature (Fuel Inlet Pump)	Inch (") % KPa Rh (%) KPa	Element Type, Particulate Trap
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc TEST CONDITIONS Ambient Temperature Atmospheric Pressure Atmospheric Pressure Relative Humidity Max. Operating Intake Resistance Exhaust Backpressure Limit Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS	Inch (") % KPa Rh (%) KPa KPa °C	Element Type, Particulate Trap         1         14         25         100         30         <5
Oil Filter  FLYWHEEL HOUSING AND FLEX COUPLING  Flywheel Housing  Flex Coupling Disc  TEST CONDITIONS  Ambient Temperature  Atmospheric Pressure  Relative Humidity  Max. Operating Intake Resistance  Exhaust Backpressure Limit  Fuel Temperature (Fuel Inlet Pump)  OVERALL DIMENSIONS  Length*	Inch (") % KPa Rh (%) KPa KPa °C mm	Element Type, Particulate Trap
Oil Filter FLYWHEEL HOUSING AND FLEX COUPLING Flywheel Housing Flex Coupling Disc TEST CONDITIONS Ambient Temperature Atmospheric Pressure Atmospheric Pressure Relative Humidity Max. Operating Intake Resistance Exhaust Backpressure Limit Fuel Temperature (Fuel Inlet Pump) OVERALL DIMENSIONS Length* Width	Inch (") KPa KPa Rh (%) KPa KPa °C mm mm mm	Element Type, Particulate Trap
Oil Filter  FLYWHEEL HOUSING AND FLEX COUPLING  Flywheel Housing  Flex Coupling Disc  TEST CONDITIONS  Ambient Temperature  Atmospheric Pressure  Relative Humidity  Max. Operating Intake Resistance  Exhaust Backpressure Limit  Fuel Temperature (Fuel Inlet Pump)  OVERALL DIMENSIONS  Length*	Inch (") % KPa Rh (%) KPa KPa °C mm	Element Type, Particulate Trap
Oil FilterFLYWHEEL HOUSING AND FLEX COUPLINGFlywheel HousingFlywheel Housing DiscFlex Coupling DiscAtmospheric PressureAtmospheric PressureRelative HumidityMax. Operating Intake ResistanceExhaust Backpressure LimitFuel Temperature (Fuel Inlet Pump)OVERALL DIMENSIONSLength*WidthHeightDry Weight*From front end of radiator to near end of air filter	Inch (") Inch (") KPa KPa KPa C C mm mm mm mm	Element Type, Particulate Trap         1         14         25         100         30         <5
Oil Filter  FLYWHEEL HOUSING AND FLEX COUPLING  Flywheel Housing  Flex Coupling Disc  TEST CONDITIONS  Ambient Temperature  Atmospheric Pressure  Atmospheric Pressure  Relative Humidity  Max. Operating Intake Resistance  Exhaust Backpressure Limit  Fuel Temperature (Fuel Inlet Pump)  OVERALL DIMENSIONS  Length*  Width  Height  Dry Weight  *From front end of radiator to near end of air filter  FAN	Inch (") KPa KPa KPa KPa C mm mm mm kg	Element Type, Particulate Trap         1         14         25         100         30         <5
Oil FilterFLVWHEEL HOUSING AND FLEX COUPLINGFlywheel HousingFlex Coupling DiscTEST CONDITIONSAmbient TemperatureAtmospheric PressureRelative HumidityMax. Operating Intake ResistanceExhaust Backpressure LimitFuel Temperature (Fuel Inlet Pump)OVERALL DIMENSIONSLength*WidthHeightDry Weight*From front end of radiator to near end of air filterFANDiameter	Inch (") Inch (") KPa KPa KPa C C mm mm mm mm	Element Type, Particulate Trap
Oil FilterFLVWHEEL HOUSING AND FLEX COUPLINGFlywheel HousingFlex Coupling DiscTEST CONDITIONSAmbient TemperatureAtmospheric PressureRelative HumidityMax. Operating Intake ResistanceExhaust Backpressure LimitFuel Temperature (Fuel Inlet Pump)OVERALL DIMENSIONSLength*WidthHeightDry Weight*From front end of radiator to near end of air filterFANDiameterDrive Ratio	Inch (") KPa KPa KPa KPa C mm mm mm kg	Element Type, Particulate Trap
Oil FilterFLVWHEEL HOUSING AND FLEX COUPLINGFlywheel HousingFlex Coupling DiscTEST CONDITIONSAmbient TemperatureAtmospheric PressureRelative HumidityMax. Operating Intake ResistanceExhaust Backpressure LimitFuel Temperature (Fuel Inlet Pump)OVERALL DIMENSIONSLength*WidthHeightDry Weight*From front end of radiator to near end of air filterFANDiameterDirve RatioNumber of Blades	Inch (") KPa KPa KPa KPa C mm mm mm kg	Element Type, Particulate Trap
Oil FilterFLVWHEEL HOUSING AND FLEX COUPLINGFlywheel HousingFlex Coupling DiscTEST CONDITIONSAmbient TemperatureAtmospheric PressureRelative HumidityMax. Operating Intake ResistanceExhaust Backpressure LimitFuel Temperature (Fuel Inlet Pump)OVERALL DIMENSIONSLength*WidthHeightDry Weight*From front end of radiator to near end of air filterFANDiameterDrive Ratio	Inch (") KPa KPa KPa KPa C mm mm mm kg	Element Type, Particulate Trap



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

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Nax. Perm. Coolant Outlet Temperature°C05Max. Perm. Flow Resist. (Cool. System And Piping)For95Max. Temperature of Coolant Warning°C86Max. Temperature of Coolant Shutdown°C86Thermost Operation Temperature - Initial Open°C81Thermost Operation Temperature - Initial Open%1105Delivery of Coolant Pumpm1105Radiator Face AreaMax.8083RowsRow18100Matrix DensityRow100100Matrix Matrixman1302100Height of Matrixm11302100Regine Pre-Hareer-Tube (with Grouting Pump)W1300100Bigne Pre-Hareer-Tube (with Grouting Pump)W1300300Bigne Pre-Hareer-Tube (with Grouting Pump)W1300300B	Radiator Type	50ºC	Tropical	
Max. Perm. Plow Reskt. (Col. System And Piping)bar0.5Max. Temperature of Coolant Warning%C95Max. Temperature of Coolant Shutdown%C88Thermostal Operation Temperature - Initial Open%C80Thermostal Operation Temperature - Full Open%C80Nin. Pressure Befor Coolant Pumpm <sup>7</sup> h0.50Radiator Face Aream <sup>9</sup> h0.51RowsRow5Matrix DensityPer / Inch18Mitch Of Matrixmm302Height of Matrixmm302Persure Cap SettingkPa0.51Etimated Cooling Air Flow ReservekPa0.51Etimated Cooling Air Flow ReservekPa0.51Utorixton DrumpinkPa5.02Utorixton Operating TemperaturekPa0.51Utorixting Oil Pressure (Rated Speed)kPa3.02Nominal Motorporting TemperaturekPa3.02Utorixting Oil Pressure Rated Speed)kPa3.02Nominal Motorporting TemperaturekPa3.02Utorixting Oil Pressure (Rated Speed)kPa3.02Nominal Motorporting TemperaturekPa3.02Ol / Fuel Consumption RatiokPa3.02Nominal Motorporting TemperaturekPa3.02<	Total Coolant Capacity	L	96	
Nax. Temperature of Coolant WarningC98Max. Temperature of Coolant ShutdownC88Thermostat Operation Temperature - Initial Open%C88Thermostat Operation Temperature - Full Open%C80Delivery of Coolant Pumpm³/h0.50Min. Pressure Before Coolant Pumpm³/h1.88Radiator Face Aream³1.88RowsRow5Matrix DensityPer / Inch18Mitch Of Matrixmm1302Height of Matrixmm1302Persure Cap SettingKa70Etimated Cooling Air Flow ReserveKa0.5Etimated Cooling Air Flow ReserveKa300Etimated Cooling Air Flow ReserveL300Dominal Motor Operating TemperatureL55Minimun Oil LevelLScNominal Motor Operating TemperatureRea30Outrictation OfferstoreScScNominal Motor Operating TemperatureGScOll / Fuel Consumption RatioScScNominal Motor Operating TemperatureRea30Oll / Fuel Consumption RatioScScNominal Motor Operating TemperatureScScOll / Fuel Consumption RatioScScNominal Motor Operating TemperatureScScOll / Fuel Consumption RatioScScNominal Motor Operating TemperatureScScOll / Fuel Consumption RatioScSc <trr>Ottoperature<t< td=""><td>Max. Perm. Coolant Outlet Temperature</td><td>°C</td><td>105</td><td></td></t<></trr>	Max. Perm. Coolant Outlet Temperature	°C	105	
Max Temperature of Coolant Shutdown°C98Thermostat Operation Temperature - Initial Open°C71Delivery of Coolant Pump°C71Delivery of Coolant Pumpm² h0.50Radiator Face Aream² h1.88RowsRow5Matrix DensityPer Inch8Matrix Densitymm1302Height of Matrixmm302Presure Gap SettingRala70Stantard Cooling Air Flow ReserveRPa0.5Engine Per Heater Tube (with Circulation Pump)RPa300Stantard Cooling Air Flow ReserveRPa0.5Cooling Air Flow ReserveRPa0.5Stantard Cooling Air Flow ReserveRPa0.5Cooling Air Flow ReserveRPa0.5Stantard Cooling Air Flow ReserveRPa0.5Cooling Air Flow ReserveRPa0.5Stantard Cooling Air Flow ReserveRPa0.5Nominal Motor Operating TemperatureRPa0.5Nominal Motor Operating TemperatureRPa0.5	Max. Perm. Flow Resist. (Cool. System And Piping)	bar	0,5	
Thermosta Operation Temperature - Full OpenCGThermostat Operation Temperature - Full OpenR7Delivery of Coolant Pumpm³ ha0,50Radiator Face Aream³ A8.8RowsRow5Matrica State AreaRow8Materialman and second	Max. Temperature of Coolant Warning	ōC	95	
Internostat Operation Temperature - Full OpenPCP1Delivery of Coolant Pumpm³/h1,50Min. Pressure Before Coolant Pumpbar0,5Radiator Face Aream²1,88RowsRow5Matrix DensityPe/ Inch8Matriamm302Width of Matrixmm302Height of Matrixmm1446Pressure Cap SettingKPa0.5Estimated Cooling Air Flow ReserveKPa0.5Estimated Cooling Air Flow ReserveKPa0.5Innium Oil LevelLS7Nominal Motor Operating TemperatureLS3Nominal Motor Operating TemperatureRea0.2Our Jede Costing Case CaseKPa0.2Nominal Motor Operating TemperatureRea0.2Nominal InterperatureS00.5Nominal InterperatureS0S0Nominal TemperatureS0S0Nominal TemperatureS0S0Nominal TemperatureS0S0Nominal TemperatureS0S0Norder Operating TemperatureS0S0Stater <td>Max. Temperature of Coolant Shutdown</td> <td>°C</td> <td>98</td> <td></td>	Max. Temperature of Coolant Shutdown	°C	98	
Delivery of Coolant Pumpm³/h0,50Min. Pressure Before Coolant Pumpbar0,5Radiator Face Aream°1,88RowsRow5Matrix DensityPer / Inch14Materialmm302Vidth of Matrixmm1446Pressure Cap SettingKPa0,15Engine Pre Heater-Tube (with Circulation Pump)Wa300DifferenceU300Lutard SystemL5Minimum Oil LevelS300Nominal Motor Operating TemperatureVa302Nominal Motor Operating TemperatureVa300Nominal Motor Operating TemperatureVa300Olf InferenceS300Outcattor Operating TemperatureVa300Nominal Motor Operating TemperatureVa300Onderating Capesare (Rated Speed)Ra30Olf InferenceS300Normal Oil TemperatureVa300Outcattor Offer StriftS300Nominal Motor Operating TemperatureVa300Olf InferenceS300Normal Oil TemperatureS300Outcattor Offer StriftS300Normal Oil TemperatureS300Outcattor Offer StriftS300Normal Oil TemperatureS300Outcattor Offer StriftS300Outcattor Offer StriftS300Outcattor Offer StriftS300Ou	Thermostat Operation Temperature - Initial Open	ōC	68	
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Radiator Face Aream <sup>a</sup> .88RowsRowSourceMatrix DensityPer/ Inch18Materialman302Width of Matrixman102Height of Matrixman146Presure Cap SettingKan0Estimated Cooling Air Flow ReserveKan0Engine Pre Heater-Tube (with Circulation Pump)Wall300Data SystemLSourceMinimum Oil LevelLSourceNominal Motor Operating TemperaturePa0Lubricating Oil Pressure (Rated Speed)RafaSourceOil / Fuel Consumption Ratio%2SourceOil / Fuel Consumption RatioNaSourceOrdinal Oil TemperaturePaSourceOrdital DifferenceSourceSourceOtal SystemSourceSourceOutrie Consumption RatioNaSourceOtal Fuel Consumption RatioNaSourceOtal SystemSourceSourceOtal SystemSourceSourceOtal SystemNaSourceOtal SystemSourceSourceOtal SystemSourceSourceSystem SourceSourceSourceOtal SystemSourceSourceOtal SystemSourceSourceSourceSourceSourceSourceSourceSourceSourceSourceSourceSourceSourceSourceSourceSourceSource <td>Delivery of Coolant Pump</td> <td>m ³/ h</td> <td>10,50</td> <td></td>	Delivery of Coolant Pump	m ³/ h	10,50	
RowsRowRowSecondMatria DensityPer/Inch18Materialmm102With of Matrixmm102Height of MatrixManon146Persure Cap SettingRa0Estimated Cooling Air Flow ReserveManon102Engine Pre Heater-Tube (with Circulation Pump)W300Data StatismI300Customer StatismISocialMinimum Oil LevelLSocialNominal Motor Operating TemperatureV300Ubrication PlanceNanonSocialNominal Motor Operating TemperatureNanonSocialNominal Motor Operating TemperatureNanonSocialNominal Motor Operating TemperatureNanonSocialNominal Motor Operating TemperatureNanonSocialNominal Motor Operating TemperatureNanonSocialNoting Consumption RatioNanonSocialNortal CustomerationNanonSocialNortal CustomerationNanonSocialNortal CustomerationNanonSocialNortal CustomerationNanonSocialStaterNanonSocialAlternator Output MontegaNanonSocialAlternator Output VoltageNanonSocialNortal CustomerationNanonSocialStater CustomerationNanonSocialStater CustomerationNanonSocialStater CustomerationNanonSocial <td< td=""><td>Min. Pressure Before Coolant Pump</td><td>bar</td><td>0,5</td><td></td></td<>	Min. Pressure Before Coolant Pump	bar	0,5	
<table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row><table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-row></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container>	Radiator Face Area	m²	1,88	
MaterialMuminumWidth of Matrixmm1302Height of Matrixmm1446Pressure Cap SettingkPa0Estimated Cooling Air Flow ReservekPa0.15Engine Pre Heater-Tube (with Circulation Pump)W300DIERCATION SYSTEMI300Current SystemL5Minimum Oil LevelS1300Noninal Motor Operating TemperatureV300Lubricating Oil Pressure (Rated Speed)Nano300Nordinal TemperatureValore300Oil Fuel Consumption Ratio%2300Nordinal TemperatureValore300Oil Fuel Consumption Ratio%2300Nordinal TemperatureValore300Otage%3300PressentV300StatterV300Alternator Output UndageAirano300Alternator Output UndageAirano300Nordinal TemperatureValore300StatterJano300Alternator Output UndageNano300Alternator Output UndageNano300N	Rows	Row	5	
Width of Matrixmm1302Height of Matrixmm1446Pressure Cap SettingkPa70Estimated Cooling Air Flow ReservekPa300Engine Pre Heater-Tube (with Circulation Pump)W300LUERCATON SYSTEML5Total SystemL5Minimun Oil LevelV40Nominal Motor Operating TemperatureVan5Lubricating Oil Pressure (Rated Speed)bar5Normal Oil TemperatureVan300Oil / Fuel Consumption Ratio%Pa300Normal Oil Temperaturevan100StatterVan300StatterKW9Alternator Output VoltageNa5Alternator Output VoltageNa5Normal StatterVan300StatterKW9Alternator Output VoltageNa5StatterNa5Alternator Output VoltageNa5Statter <t< td=""><td>Matrix Density</td><td>Per / Inch</td><td>18</td><td></td></t<>	Matrix Density	Per / Inch	18	
Height of MatrixmanHeight of MatrixPressure Gap SettingkPa0Etimated Cooling Air Flow ReservekPa0.15Etimated Cooling Air Flow Reservewa3000Etimeter Auber (with Circulation Pump)kPa3000Etimeter Auber (with Circulation Pump)k5Data Systemk5Minimu Oil LevelkPa300Nominal Motor Operating TemperaturekPa300Lubricating Oil Pressure (Rated Speed)kPa300Relief Valve OpenskPa300Oly I pel Consumption Ratio%Pa300Normal Di TemperaturekPa300OtagekPa300StarterkPa300Alternator Output AmperskPa300Alternator Output VoltagekPa300Alternator Output VoltagekPa300Alternation Output VoltagekPa300Alternation Output VoltagekPa300Alternation Output VoltagekPa300Alternation Output Voltage<	Material		Aluminum	
Pressure Cap SettingkPa70Estimated Cooling Air Flow ReservekPa0,15Engine Pre Heater-Tube (with Circulation Pump)W3000 <b>LURICATION SYSTEM</b> I57Total SystemL57Minimu Oil LevelV40Nomial Motor Operating Temperaturev240Lubricating Oil Pressure (Rated Speed)kPa30Relief Valve Opens%Pa30Oil / Fuel Consumption Ratio%Pa30Normal Oil Temperaturev210StarterV44StarterKalan5Alternator Output MangersA5Alternator Output VoltageNa5StarterKalan5Alternator Output VoltageNa5StarterKalan5Alternator Output VoltageNa5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5StarterSandow5	Width of Matrix	mm	1302	
Estimated Cooling Air Flow ReservekPa0.15Engine Pre Heater-Tube (with Circulation Pump)Wa300 <b>LURCATION SYSTEM</b> LSTotal SystemL5Minimu Oil LevelV40Nominal Motor Operating TemperatureV40Ruler Otypessane (Rated Speed)Na5Normal Oil TemperatureNa50Oil J Fuel Consumption RatioNa00Normal Oil TemperatureV10ELETERCEL SYSTEMV10StarterNa9Altenator Output, MontageNa9Altenator Output, MontageNa9 <td>Height of Matrix</td> <td>mm</td> <td>1446</td> <td></td>	Height of Matrix	mm	1446	
Engine Pre Heater-Tube (with Circulation Pump)W3000LURICATON SYSTEMLURICATON SYSTEMITotal SystemINominum Oil LevelLNominal Motor Operating Temperature0Lubricating Oil Pressure (Rated Speed)barRelief Valve Opens%Old J Fuel Consumption Ratio%Normal Oil Temperature%Vortage10StarterValueAlternator Output VoltageAMarcon StarterSaloAlternator Output VoltageNormalStarterAloAlternator Output VoltageNormalStarter	Pressure Cap Setting	kPa	70	
LUBRICATION SYSTEMLUBRICATION SYSTEMTotal SystemLTotal SystemS7Minimum Oil LevelLNominal Motor Operating Temperature°CLubricating Oil Pressure (Rated Speed)barBelief Valve OpensKPaOil / Fuel Consumption Ratio%ANormal Oil Temperature°CBetter KLAMS0Consumption Ratio%ANormal Oil Temperature°CVoltageVStarterVAlternator Output AmpersAAlternator Output VoltageVStarterSaAlternator Output VoltageVStarterSa <td>Estimated Cooling Air Flow Reserve</td> <td>kPa</td> <td>0,15</td> <td></td>	Estimated Cooling Air Flow Reserve	kPa	0,15	
Total SystemL57Minimu Oil LevelL55Nominal Motor Operating TemperatureP40Lubricating Oil Pressure (Rated Speed)bar5Relief Valve OpensKPa20Oil / Fuel Consumption Ratio%305Normal Oil TemperatureU10ELECTRICAL SYSTEMV24VoltageName9StarterKW9Alternator Output MappersName5Alternator Output VoltageName5Normal Oil TempersName5StarterKW9Alternator Output MappersName5Alternator Output VoltageName5Normal Oil TempersName5StarterName5Market StarterSame5Market StarterName5Market StarterName5Market StarterName5Market StarterSame5Market StarterName5Market StarterName5Market StarterName5Market StarterSame5Market StarterSame5Market StarterSame5Market StarterSame5Market StarterSame5Market StarterSame5Market StarterSame5Market StarterSame5Market StarterSame5Market Starter	Engine Pre Heater-Tube (with Circulation Pump)	W	3000	
Minimu Oil LevelL55Nominal Motor Operating TemperaturePC90Lubricating Oil Pressure (Rated Speed)bar5Relief Value OpensKPa20Oil / Fuel Consumption Ratio%05Normal Oil Temperature°C10ELECTRICAL SYSTEMVoltageValue9StarterKW9Aternator Output MangersKalona5Aternator Output MangersNo8Aternator Output MangersNo8Aternator Output MangersNo8Aternator Output MangersNo8Aternator Output MangersNo8	LUBRICATION SYSTEM			
Nominal Motor Operating TemperaturePC40Nominal Motor Operating Temperatureba5Lubricating Oil Pressure (Rated Speed)kPa200Oil / Fuel Consumption Ratio%040Normal Oil Temperature°C10 <b>ELECTRICAL SYSTEM</b> VoltageV24StarterkWa9Alternator Output AmpersA45Atternator Output AddingerVoltage28	Total System	L	57	
Lubricating Oil Pressure (Rated Speed)bar5Relief Valve OpenskPa200Oil / Fuel Consumption Ratio%<0,5	Minimum Oil Level	L	55	
Relief Valve OpenskPa200Ol / Fuel Consumption Ratio%\$Normal Oil Temperature%10LECTRICAL SYSTEMVoltageVa24StarterkW9Alternator Output AmpersA45Atternator Output ModelV28	Nominal Motor Operating Temperature	₅C	40	
OI / Fuel Consumption Ratio%Normal Oi / Fuel Consumption Ratio%10 <b>ELECTRICAL SYSTEM</b> VVVoltage%44StarterKW9Alternator Output AmpersA45Atternator Output Voltage%8	Lubricating Oil Pressure (Rated Speed)	bar	5	
Normal Oil Temperature%C110ELECTRICAL SYSTEMVVoltageV24StarterkW9Alternator Output AmpersA45Atternator Output VoltageV28	Relief Valve Opens	kPa	200	
ELECTRICAL SYSTEMVoltageV24StarterkW9Alternator Output AmpersA45Alternator Output VoltageV28	Oil / Fuel Consumption Ratio	%	≤0,5	
VoltageV24StarterkW9Alternator Output AmpersA45Atternator Output VoltageV28	Normal Oil Temperature	°C	110	
StarterkW9Alternator Output AmpersA45Alternator Output VoltageV28	ELECTRICAL SYSTEM			
Alternator Output AmpersA45Alternator Output VoltageV28	Voltage	V	24	
Alternator Output Voltage V 28	Starter	kW	9	
	Alternator Output Ampers	А	45	
Batteries Capacity Ah 2X135		V	28	
	Batteries Capacity	Ah	2X135	



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



## JCB ENERGY DIESEL ENGINE POWER RATINGS

ENGINE MODEL	B1360JCI		ENGINE FAMILY	JC35	ENGINE SERIES	BII	
		TYPICAL GENERATOR OUTPUT (NET)		ENGINE POWER	٦		
Speed (Rpm)	Type of Operation			Gr	OSS	Net	
		kVA	kWe	KWm	Нр	kWm	Нр
1500	Stand By(Maximum)	1.098,0	879,0	950,0	1.275,2	920,0	1.234,9
	Prime	1.001,0	801,0	868,0	1.165,1	839,0	1.126,2
	Stand By(Maximum)	1.236,0	988,0	1.074,0	1.441,6	1.040,0	1.396,0
1800	Prime	1.120,0	896,0	976,0	1.310,1	943,0	1.265,8

## **DIESEL ENGINE MATCHING PARAMETERS - 50 HZ**

50 HZ @ 1500 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	950,0	868,0
Net Engine Power	kW	920,0	839,0
Fan Power Consumption (Belt Pulley Driven)	kW	28,0	28,0
Other Power Loss	kW	2,0	1,5
Mean Effective Pressure	MPa	3,17	2,90
Intake Air Flow	m <sup>3</sup> / min	69,48	66,17
Exhaust Temperature Limit	₅C	650	650
Exhaust Flow	m ³/ min	170,63	162,50
Boost Pressure Ratio		3,40	3,20
Mean Piston Speed	m / s	7,8	7,8
Cooling Fan Air Flow	m ³/ min	870,0	870,0
Typical Generator Output Power	kVA	1098	1001
HEAT REJECTION		STAND BY	PRIME
Energy in Fuel (Heat of Combustion)	kW	2375,0	2170,0
Gross Heat to Power	kW	950,0	868,0
Energy to Coolant and Lubricating Oil	kW	404,0	369,0
Heat Dissipation Capacity *	kW	166,0	152,0
Energy to Exhaust	kW	689,0	629,0
Energy to Exhaust Heat to Radiation	kW kW	689,0 71,0	629,0 65,0



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



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

CO 117 @ 1900 D /MINI		CTAND DV	DDIME
60 HZ @ 1800 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	1074,0	976,0
Net Engine Power	kW	1038,1	940,7
Fan Power Consumption (Belt Pulley Driven)	kW	33,6	33,6
Other Power Loss	kW	2,3	1,7
Mean Effective Pressure	MPa	2,99	2,72
Intake Air Flow	m ³ / min	78,50	74,40
Exhaust Temperature Limit	ōC	650	650
Exhaust Flow	m <sup>3</sup> / min	192,80	182,70
Boost Pressure Ratio		3,80	3,60
Mean Piston Speed	m / s	9,3	9,3
Cooling Fan Air Flow	m ³ / min	983,0	983,0
Typical Generator Output Power	kVA	1236	1120
HEAT REJECTION		STAND BY	PRIME
Energy in Fuel (Heat of Combustion)	kW	2571,0	2305,0
Gross Heat to Power	kW	1074,0	943,0
Energy to Coolant and Lubricating Oil	kW	456,0	415,0
Heat Dissipation Capacity *	kW	188,0	171,0
Energy to Exhaust	kW	778,0	708,0
Heat to Radiation	kW	75,0	68,0
*Intake Intercooled system			

## JCB ALTERNATOR TECHNICAL PARAMETERS AND SPECIFICATIONS



ALTERNATOR TECHNI	CAL PARAMETERS				
Insulation Class		Н	Field Control System		Self-Excited
Winding Pitch		2/3 - (N° 6)	A.V.R. Model	Standard	MX341+PMG
Wires		6	Voltage Regulation	%	± 1
Protection		IP 23	Sustained Short-Circuit Current	10 sec	300% (3 IN)
Altitude	m	1000	Total Harmonic (*) TGH / THC	%	< 4
Overspeed	rpm	2250	Wave Form: NEMA = TIF - (*)		< 50
Air Flow	m³/sec.	1,614	Wave Form: I.E.C. = THF - (*)	%	< 2
Bearing Drive	N/A	-	Bearing Non-Drive	Bearing	6317-2RZ
Rotor Winding	100%	Copper	Stator Winding	100%	Copper



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



## **ALTERNATOR SPECIFICATIONS**

#### 50 HZ / 231-400V COSQ 0,8 / 1500 RPM STANDARD USING ALTERNATOR **OPTIONAL USING ALTERNATOR JCB 400M** BRAND/MODEL **JCBENERGY**<sup>®</sup> TAL049E HC6J LEROY-SOMER **STAMFORD** DUTY Continuous Stand By AMBIENT C° 40°C 27°C **CLASS / TEMP. RISE** C° 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 1000,0 1000,0 1038,0 -1100,0 1100,0 1141,0 \_ **OUTPUT POWER** kW 800,0 800,0 830,4 880,0 880,0 912,8

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

STANDARD USING ALTERN	NATOR			OPTIONAL U	JSING ALTEF	RNATOR			
BRAND/MODEL	JEBENERGY	JCB 400S		LEROY-S		1049D	STAMFO	)RD	НС6Н
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	1026,0	1080,0	1137,0	-	1129,0	1188,0	1251,0	-
OUTPUT POWER	kW	820,8	864,0	909,6	-	903,2	950,4	1000,8	-



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



#### **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

BENERG

#### 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 Pa	ainted St	eel Pane	el wi
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
- o LCD Screen
- o Control Relays
- Backlit, 128x64 Pixel

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

**CONTROL PANEL SPECIFICATIONS** 

Brand	JEBENERGY	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







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



## **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
- o Glass wool Isolation, A1 Class Material -50/+500 ℃
- 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)
- 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		JCBENERGY		
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				
(IAF Code: 18,19)		(IAF Code: 18,19)		
hital Registration Date : 35-Sec-3020 11 Schwellinere Date : 35-Sec-3024 27 Schwellinere Date : 35-Sec-3025 Certificate 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		
https://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 204E MADRID. (MADRID]. SPAN ts of the following standard 2015 mt System) Market Commentation 1 System (Market Commentation) Market Commentation Market Commentation		







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

Abienanya Gauras Abienanya Gauras Abienanya Gauras Aperoval

Approval





Certificate

## HEALTHY & SAFE

WORKPLACE CERTIFICATE

JCB ENERGY ELECTRIC POWER INDUSTRY

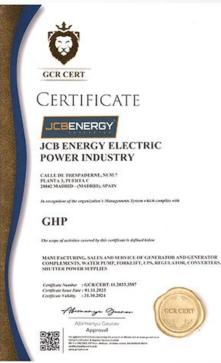
CALLE DE TRESPADERNE, NUN 7 PLANTA & PETRETA C 2006 MARDING - OADBRIDS, PAIN B has been entried to obtain a Healthy and Sele Workslase Conflicts by fulfiling the regimements for COVI-55 measures, within the physical conditions of the Dubries with in the regime of the Nealthy and Sele Workslase Ended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