



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		OUTPUT			
Model	Hz	V	Cos Q	Rpm	Brand	Model	Series	Brand	Model	Series	Operation	kVA	kW	А		
								Ľ			Standby	60,0	48,0	86,7		
JCN 60	50	231/400	0.8	1500						22551	Prime	54,5	43,6	78,8		
							F741C F1				Continuous	38,2	30,5	55,2		
					JCN	JCN	JCN	E74JC	EII	Я	JCB		Standby	70,0	56,0	101,2
JCN 70	60	277/480	0.8	1800					ũ		180LXA	Prime	63,6	50,9	92,0	
								<u>,</u>	•		Continuous	44,5	35,6	64,4		

 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.

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





		<u> </u>			
VALUES		OPEN TYPE GENERATOR	CANOPY TYPE GENERATOR		
WIDTH	mm	700	1000		
LENGTH	mm	1700	2700		
HEIGHT	mm	1562	1190		
WEIGHT (NET)	Kg	857	990		
FUEL TANK CAPACITY	L	134	100		

SYMBOL	OPEN	CANOPY
L	1700	2700
W	700	1000
н	1212	1390
S	930	80
Α	870	
В	900	
С	515	
D1		100
D2		100
D3		400
D4		400
D5		483

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FUEL CONSUMPTION

PERCENT OF PRIME POWER	1500 rpm	1800 rpm		
	l/hr	l/hr		
110 %	13,56	16,27		
100 %	12,39	14,79		
75 %	9,66	11,54		
50 %	6,90	8,24		



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DIESEL ENGINE MAIN TECHNICAL PARAMETERS

GENERAL		
Number of Cylinders		4
Configuration		Vertical, In Line
Aspiration		Turbocharged
Combustion System		Direct Injection
Compression Ratio		17.5:1
Bore	mm	102
Stroke	mm	115
Displacement	L	3,76
Governing Type	-	Mechanic
Governing Class		G2
Rotation		Counterclockwise
Firing Order		1-3-4-2
Emission		Tier II
Moments of Rotation Inertia		ner li
	Kg - m²	0.16
Engine	-	0,16
Flywheel	Kg - m²	1,2
Performance Rating	2/	
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	КРа	100
Relative Humidity	Rh (%)	30
Max. Operating Intake Resistance	КРа	5
Exhaust Backpressure Limit	КРа	5
Fuel Temperature (Fuel Inlet Pump)	°C	38±2
OVERALL DIMENSIONS		
Length* Width	mm	1015 700
Height	mm mm	985
Dry Weight	kg	450
*From front end of radiator to near end of air filter	5	
FAN		
Diameter	mm	450
Drive Ratio		1,3:1
Number of Blades		8 Plastic
Mumber of Blades Material Type		8 Plastic Blowing





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DIESEL ENGINE MAIN TECHNICAL PARAMETERS

COOLING SYSTEM		
Radiator Type	50ºC	Tropical
Total Coolant Capacity	L	18
Max. Perm. Coolant Outlet Temperature	⊆C	103
Max. Perm. Flow Resist. (Cool. System And Piping)	bar	0,5
Max. Temperature of Coolant Warning	⁰C	95
Max. Temperature of Coolant Shutdown	⁰C	98
Thermostat Operation Temperature - Initial Open	°C	72
Thermostat Operation Temperature - Full Open	°C	75
Delivery of Coolant Pump	m ³/ h	1,60
Min. Pressure Before Coolant Pump	bar	0,15
Radiator Face Area	m²	0,26
Rows	Row	2
Matrix Density	Per / Inch	15,5
Material		Aluminum
Width of Matrix	mm	538
Height of Matrix	mm	510
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	12
Minimum Oil Level	L	11
Nominal Motor Operating Temperature	°C	40
Lubricating Oil Pressure (Rated Speed)	bar	5
Relief Valve Opens	kPa	352
Oil / Fuel Consumption Ratio	%	≤0,3
Normal Oil Temperature	°C	110
ELECTRICAL SYSTEM		
Voltage	V	12
Starter	kW	3,8
Alternator Output Ampers	А	25
Alternator Output Voltage	V	14
Batteries Capacity	Ah	55





JCB ENERGY DIESEL ENGINE POWER RATINGS

ENGINE MODEL	E74JC		ENGINE FAMILY	JC61	ENGINE SERIES	EII	
Speed (Rpm)		TYPICAL GENERATOR OUTPUT (NET)		ENGINE POWER			
	Type of Operation			Gro	SS	Net	
		kVA	kWe	KWm	Нр	kWm	Нр
1500	Stand By(Maximum)	59,9	47,9	58,0	77,9	54,0	72,5
	Prime	54,5	43,6	53,0	71,1	49,0	65,8
1800	Stand By(Maximum)	72,1	57,7	69,9	93,4	64,8	87,0
	Prime	65,3	52,2	63,3	85,0	58,7	78,8

DIESEL ENGINE MATCHING PARAMETERS - 50 HZ

50 HZ @ 1500 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	58,0	53,0
Net Engine Power	kW	54,0	49,0
Fan Power Consumption (Belt Pulley Driven)	kW	3,0	3,0
Other Power Loss	kW	1,2	1,0
Mean Effective Pressure	MPa	1,23	1,13
Intake Air Flow	m ³ / min	3,54	3,54
Exhaust Temperature Limit	ōC	450	430
Exhaust Flow	m ³/ min	3,97	3,60
Boost Pressure Ratio		9,40	8,60
Mean Piston Speed	m / s	5,8	5,8
Cooling Fan Air Flow	m ³/ min	70,0	70,0
Typical Generator Output Power	1.1.4	<u> </u>	FF
rypical Generator Output Power	kVA	60	55
HEAT REJECTION	KVA	STAND BY	PRIME
	kWA		
HEAT REJECTION		STAND BY	PRIME
HEAT REJECTION Energy in Fuel (Heat of Combustion)	kW	STAND BY 141,0	PRIME 128,0
HEAT REJECTION Energy in Fuel (Heat of Combustion) Gross Heat to Power	kW kW	STAND BY 141,0 58,0	PRIME 128,0 53,0
HEAT REJECTION Energy in Fuel (Heat of Combustion) Gross Heat to Power Energy to Coolant and Lubricating Oil	kW kW kW	STAND BY 141,0 58,0 33,6	PRIME 128,0 53,0 30,2
HEAT REJECTIONEnergy in Fuel (Heat of Combustion)Gross Heat to PowerEnergy to Coolant and Lubricating OilHeat Dissipation Capacity *	kW kW kW kW	STAND BY 141,0 58,0 33,6 -	PRIME 128,0 53,0 30,2 -





DIESEL ENGINE MATCHING PARAMETERS - 60 HZ

60 HZ @ 1800 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	69,6	63,3
Net Engine Power	kW	64,8	58,7
Fan Power Consumption (Belt Pulley Driven)	kW	3,6	3,6
Other Power Loss	kW	1,2	1,0
Mean Effective Pressure	MPa	1,23	1,12
Intake Air Flow	m ³ / min	4,25	4,25
Exhaust Temperature Limit	ōC	540	540
Exhaust Flow	m ³ / min	4,75	4,30
Boost Pressure Ratio		11,30	10,30
Mean Piston Speed	m / s	6,9	6,9
Cooling Fan Air Flow	m ³ / min	84,0	84,0
Typical Generator Output Power	kVA	72	65
HEAT REJECTION		STAND BY	PRIME
Energy in Fuel (Heat of Combustion)	kW	169,8	148,4
Gross Heat to Power	kW	69,6	58,7
Energy to Coolant and Lubricating Oil	kW	40,3	36,1
Heat Dissipation Capacity *	kW	-	-
	1.1.1	47,2	42,2
Energy to Exhaust	kW	47,2	42,2
Energy to Exhaust Heat to Radiation	kW kW	17,2	11,4

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	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.	0.216	Wave Form: I.E.C. = THF - (*)	%	< 2
Bearing Drive	N/A	-	Bearing Non-Drive	Bearing	6309-2RZ
Rotor Winding	100%	Copper	Stator Winding	100%	Copper



1 62 dB (A) @ 7 mt

ALTERNATOR SPECIFICATIONS

50 HZ / 231-400V COSQ 0,8 / 1500 RPM STANDARD USING ALTERNATOR **OPTIONAL USING ALTERNATOR** JCB 225S1 BRAND/MODEL JCBENERGY TAL042H UC224E 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 55,0 55,0 57,0 60,0 60,0 63,0 _ kW 44,0 44,0 45,6 50,4 **OUTPUT POWER** 48,0 48,0 -

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

STANDARD USING ALTERNATOR				OPTIONAL USING ALTERNATOR					
BRAND/MODEL	JEBENERGY	JCB 180LX	4	LEROY-S	SOMER TA	L042G	STAMF	ORD	UC 224E
DUTY				Continuous				Stand By	
AMBIENT	C°			40°C				27°C	
CLASS / TEMP. RISE	C°			Н / 125° К				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	58,0	63,0	63,0	42,0	64,0	69,0	69,0	46,0
OUTPUT POWER	kW	46,4	50,4	50,4	33,6	51,2	55,2	55,2	36,8



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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
- Control Dolore
- Control Relays
- 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





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



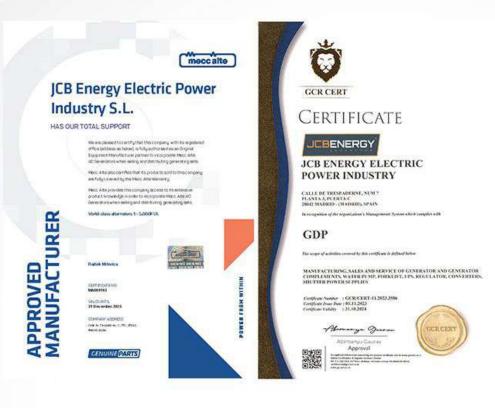
- Special, Registered JCB Energy Design and Colour
- A1 Quality DKP / HRU / Galvanized Steel
- Sensitive Twist on Automatic Press Brake
- Delicate Cut on Automatic Punch and Laser Bench
- Sensitive Welding on Robotic Welding Bench
- Chemical Cleaning Nano Technology Before Painting
- Robotic Painting with Electrostatic Powder Paint
- Drying and stabilizing on 200 °C Ovens
- 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)
- External Exhaust Mufflers (Silencers)
- Radiator water Filling Cap
- Daily Fuel Tank, External Fuel Tank

Our Quality Certificates

Certificate of Registration 🙈		Certificate of Re	gistration 👝	
This is to certify that the Quality I	Management System of	This is to certify that the Environmental Variagement System of		
JEBENE	RGY	JEBENERGY		
JCB ENERGY ELECTRIC	POWER INDUSTRY	JCB ENERGY ELECTRIC POWER INDUSTRY		
CALLE DE TRESPADERNE, NUN 7 PLANTA 3, PUE	RTA C 28042 MADRID - (MADRID), SPAIN	CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 22042 MADRID - (MADRID), SPAN		
is in accordance with the requireme	nts 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		
MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER FUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES		MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER RUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES		
(AF Code: 18,13)		(AF Code: 18,15	(AF Code: 18,19)	
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JEBENERGY

JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM? PLANTA 3, PUERTA C 28642 MADRED - (MADRED, NPAEN

nition of the organization's Management System which complex with

1SO 22716:2013:GMP GOOD MANUFACTURING PRACTICES The scope of extinuous cannot by this confidence is defined below

MANUPACTURING, SALLS AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER FUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SIGTTER POWER SUPPLIES

Complexer Needer : GCRCERT-11.2023.3585 Complexer Jour Date (#1.11.2023 Complexer Failed) : 21.38.2024

Alemany games Abimaryu Casaw Approval

Ki gabad Matania anang Ki Kabal Kelang Ki Igaba anang Ali Selaharan Yang Ki Kabalan Ki Kelang Ki Ki Kabalan Ki Kelang Ki Ki Kabalan Ki Kabalan Kabalan GUR CERT



Certificate

HEALTHY & SAFE WORKPLACE CERTIFICATE

JCB ENERGY ELECTRIC POWER INDUSTRY

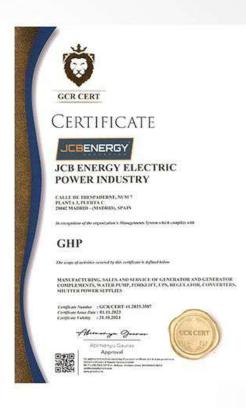
CALLE DE TRESPADERNE, NUM 7 PLANTA L'PUERTA C 20042 MADRID+ (MADRID), SPAIN that been writted to obtain a Healthy and Safe Workplace Certificate by fulfilling the equiversets for COVO-19 resources, when the physical conditions of the business ch is the scope of the Healthy and Safe Workplace Certificate program.

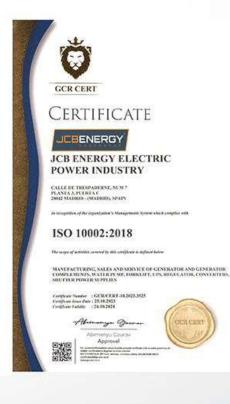
FACTORIES - PRODUCTION LOCATIONS: ELECTRICAL AND ELECTRONICS INDUSTRY

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