JVP 220

231 / 400 V – 50 Hz & 277

GENERATOR GENERAL INFORMATION

GENERATOR	FREQUENCY	VOLTAGE	POWER FACTOR	SPEED	DIESEL ENGINE		ALTERNATOR		
MODEL	HZ	V	Cos Q	rpm	BRAND	MODEL	BRAND	MODEL	SERIES
JVP 220	50	231/400	0.8	1500	VOLVO PENTA	TAD 733GE	JCBENERGY	JCB	270M1

GENERATOR OUTPUT

	OPERATION	kVA	kW	A
50 Hz	STAND BY	220,0	176,0	317,9
	PRIME	200,0	160,0	289,0
	CONTINUOUS	140,0	112,0	202,3

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:

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.

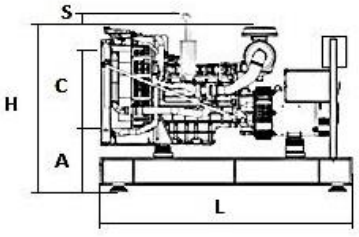
FEATURES AND BENEFITS

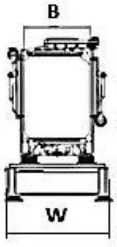
- Diesel Engines with Advanced Technology and Quality
- Alternators with Advanced Technology and Quality
- Low Exhaust Emission
- Control Panel Suitable for Flexible Application
- Patented Compact Designed and Sound proof Canopy
- Low Operating Cost
- Suitable for Heavy-Duty
- Durability
- Low Noise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

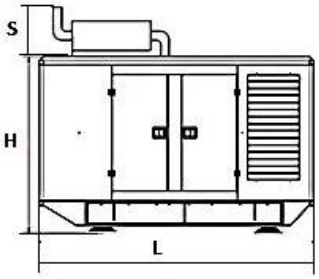
GENERATOR DIMENSIONS AND TECHNICAL DRAWINGS

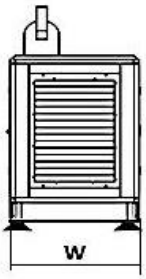
VALUES		OPEN TYPE GENERATOR	CANOPY TYPE GENERATOR
WIDTH	mm	1003	1110
LENGTH	mm	2400	2960
HEIGHT	mm	1885	1727
WEIGHT (NET)	Kg	1760	2190
FUEL TANK CAPACITY	L	256	376

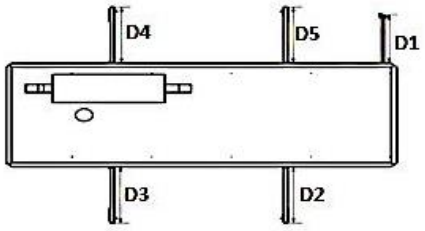
SYMBOL	OPEN	CANOPY
L	2400	2960
W	1003	1110
H	1885	1727
S	87	500
A	317	
B	707	
C	1013	
D1	-	520
D2	-	604
D3	-	604
D4	-	604
D5	-	604











ENGINE TECHNICAL PARAMETERS

GENERAL		
Number of Cylinders		6
Configuration		Vertical, In line
Aspiration		Turbo Charged & CAC
Combustion System		Direct Injection
Compression Ratio		18:1
Bore	mm	108
Stroke	mm	130
Displacement	L	7,15
Governing Type		Electronic
Governing Class		G3
Rotation		Counterclockwise
Fringe Order		1-5-3-6-2-4
Emission		EU Stage 2
Filters		
Air Filter		Dry Type, Replaceable
Fuel Filter		Element Type, Replaceable
Oil Filter		Element Type, Particulate Trap
Fuel Consumption		
Standby 110 %		46,0
Prime 100 %		41,3
Prime 75 %		31,0
Prime50 %		21,2
Fan		
Diameter		770
Drive Ratio		1:1
Number of Blades		9
Material		Composite
Type		Blowing

COOLING SYSTEM		
Radiator Type	50ºC	**Tropical**
Total Coolant Capacity	L	**39**
Max. Perm. Coolant Outlet Temperature	ºC	**105**
Max. Perm. Flow Resist.(Cool. System and Piping)	bar	**0,5**
Max. Temperature of Coolant Warning	ºC	**98**
Max. Temperature of Coolant Shutdown	ºC	**103**
Thermostat-Initial Open	ºC	**87**
Thermostat Operation Temperature-Full Open	ºC	**102**
Delivery of Coolant Pump	m ³/ h	**3,00**
Min. Pressure Before Coolant Pump	bar	**0,25**
Radiator Face Area	m²	**0,716**
Rows	Row	**2**
Matrix Density	Per/Inch	**12**
Material		**Aluminum**
Width of Matrix	mm	**707**
Height of Matrix	mm	**10013**
Pressure Cap Setting	kPa	**90**
Estimated Cooling Air Flow Reserve	kPa	**0,125**
Engine Pre-Heater Tube (with Circulation Pump)	W	**2000**

LUBRICATION SYSTEM		
Total System	L	**34**
Minimum Oil Level	L	**24**
Nominal Engine Operating Temperature	ºC	**45**
Lubricating Oil Pressure (Rated Speed)	bar	**5,2**
Relief Valve Opens	kPa	**300**
Oil / Fuel Consumption Ratio	%	**0,08**
Normal Oil Temperature	ºC	**110**

ELECTRICAL SYSTEM		
Voltage	V	**24**
Starter	kW	**5,5**
Alternator Output Ampere	A	**35**
Alternator Output Voltage	V	**28**
Batteries Capacity	Ah	**2x85**

DIESEL ENGINE POWER RATINGS	50 Hz @ 1500 r/min	StandBy
Gross Engine Power	**kW**	**201,0**
Net Engine Power	**kW**	**195,0**
Fan Power Consumption (Belt Pullery Driven)	**kW**	**6,1**
Other Power Loss	**kW**	**-**
Mean Effective Pressure	**kPa**	**2200,00**
Intake Air Flow	**m ³ /min**	**12,40**
Exhaust Temperature Limit	**ºC**	**530**
Exhaust Flow	**m ³ /min.**	**37,20**
Boost Pressure Ratio	**kW**	**20,00**
Mean Piston Speed	**m/s**	**6,5**
Cooling Fan Air Flow	**m ³/min.**	**162,0**
Typical Generator Output Power	**kVA**	**225,5**
Heat Rejection		**StandBy**
Energy in Fuel (Heat of Comustion)	**kW**	**524,0**
Gross Heat to Power	**kW**	**201,0**
Energy to Coolant and Lubricating Oil	**kW**	**96,0**
Energy to Exhaust	**kW**	**165,0**
Heat to Radiation	**kW**	**20,0**

ALTERNATOR TECHNICAL INFORMATION

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**	%	**< 4**
Overspeed	rpm	**2250**	**Wave Form: NEMA = TIF - (*)**		**< 50**
Air Flow	m^3/sec	**0.514**	**Wave Form: I.E.C. = THF - (*)**	%	**< 2**
Bearing Drive	N/A	-	**Bearing Non-Drive**	Bearing	**6310-2RZ**
Rotor Winding	%100	**Copper**	**Stator Winding**	100%	**Copper**

50 Hz – 231 - 400V CosQ 0,8 – 1500 rpm

ALTERNATOR SPECIFICATIONS

Standard Using Alternator						**Optional Using Alternator**			
Brand/Model		**JCB-270M1**				**TAL046B**		**UC274H**	
Duty		**Continuous**				**Stand By**			
Ambient	C°	**40°C**				**27°C**			
Class / Temp. Rise	C°	**H / 125° K**				**H / 163° K**			
Series Star (V)	V	380/220	400/231	415/240	1 Faz	380/220	400/231	415/240	1 Faz
Parallel Star(V)	V	190/110	200/115	208/120	220	190/110	200/115	208/120	220
Series Delta (V)	V	220	230	240	230	220	230	240	230
Output Power	kVA	**214,0**	**214,0**	**222,0**	-	**235,0**	**235,0**	**244,0**	-
Output Power	kW	**171,0**	**171,0**	**178,0**	-	**188,0**	**188,0**	**195,0**	-

CONTROL MODULE ALERTS

Emergency Stop Failure
High Generator Voltage
Low Generator Frequency
Broken Oil Sensor Cable
Magnetic Pickup Error
Low Fuel Level (Optional)
Low Generator Voltage,
Low Battery Voltage
High Generator Frequency
Phase Sequence Error, Unbalanced Current
Overload, Unbalanced Load,
Low Load
Emergency Stop Failure
High Generator Voltage
Low Generator Frequency

Low Oil Pressure
Low Water Temperature,
High Water Temperature
Temperature Sensor Broken
Reverse Power, Over Current
Start Error, Stop Error
High Oil Temperature (Optional)
High Battery Voltage
Charge Alternator Error
Electronic Canbus Errors (ECU)
Maintenance Time Alarm
Low Speed, High Speed
Magnetic Pickup Error
Broken Oil Sensor Cable

CONTROL PANEL SPECIFICATIONS



o Steel Sheet Panel with Locking Cover
o ATS / Automatic Transfer Board –Optional
o Control Module
o Battery Charger
o Emergency Stop Button
o Block Terminal Connection

o Load Output Terminal-Busbar
o System Protection Fuses
o TMŞ / Output Switch - Optional
o Graphic LCD Display
o Backlit 128x64 pixels
Control Relays

CONTROL MODULE TECHNICAL PARAMETERS

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 - 32V
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

Brand : DSE

Dimensions	216mm x 158mm x 42 mm
Weight	510 g (0.51 kg)
Protection Class	IP65 From the Front
Environmental Conditions	2000 meters above sea level
Ambient Temperature	-20°C to +70°C
Battery Voltage Measurement	8 - 32 V
Mains Voltage Measurement	3 - 300 V phase -Neutral, 5 - 99,9 Hz
Generator Frequency	5 - 99,9 Hz
Working Period	Continuous
Charge Alternator Excitation	210mA &12V, 105mA &24V Nominal 2.5W
Analog Sender Measurement	0 - 1300ohm
Mains Contactor Relay Output	5A & 250V
Start Transistor Outputs	1A with DC Supply
Configurable-4 Transistor Outputs	1A with DC Supply

CONTROL MODULE FUNCTIONS

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, Earting	Configurable Programmable Digital Inputs and Outputs	Water Temperature Current and Frequency	Hours of Operation Phase sequence	Battery Voltage Oil Pressure

- 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
- I permeability Test for Fuel Tank
- Vacuumed Rubber Mounted
- High Quality weatherstrips
- High Quality Shock Absorbers
- Fuel Filling Cap (with ventilation)
- Lifting and Carrying Equipment
- Internal Exhaust Mufflers (Silencers)
- External Exhaust Mufflers (Silencers)
- Radiator water Filling Cap
- Daily Fuel Tank, External Fuel Tank

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