



Image for demonstration purposes

## Generating Set Base Frame - diesel

# GE.BD.022/020.BF+011

1500 rpm - Threephase - 50Hz - 400V  
Automatic Panel with AMF without ATS



## Standard equipment

### ⚙️ Exhaust

Exhaust manifold protection  
Silenced muffler -15dB(A)

### ⚙️ Fuel Supply

Single wall daily tank with bunded base  
Automatic shutdown system for low fuel level  
Fuel gauge

### ⚙️ Handling

Base frame with anti-overturning forklift pockets  
Forkliftable on the short side

### ⚙️ Base Frame

Anti-vibrating mounting pads  
Battery compartment externally accessible for easy service  
Anti pollution bunded base

### ⚙️ Engine

High coolant temperature and low oil pressure shutdown system  
External oil drain points  
Engine liquids (oil and antifreeze)  
Tropicalized radiator  
Rotating parts protection  
Electronic speed governor

### ⚙️ Alternator

Avr automatic voltage regulator  
Impregnation for marine environment  
Ip23

### ⚙️ Panel & connection

Emergency stop button  
Cable output from the bottom  
Ip44 wiring  
Start-up battery (pre-charged)  
Grounding point

### ⚙️ Documentation

Ce conformity declaration  
User and maintenance manual  
Wirings diagrams

### ⚙️ Normatives

All generating sets are compliant to CE marking  
2014/30/UE electromagnetic compatibility  
2000/14/CE noise emission for outdoor use  
Factory-designed systems built according to ISO 9001:2015  
CEI EN 60204-1:2018 - Electrical equipment of machines

## Primary data

### General Information

Speed	RPM	<b>1500</b>
Frequency	Hz	<b>50</b>
PRP	KVA	<b>20</b>
Prp - prime power	KW	<b>16,0</b>
Ltp - standby power	KVA	<b>21</b>
Ltp - standby power	KW	<b>16,8</b>
Standard voltage	V	<b>400/230</b>
Current	A	<b>28,9</b>
Cosfi	0,8	<b>0,8</b>

### General electrical protection

Circuit-breaker rated current	A	<b>32</b>
Type		<b>Magnetothermal switch on panel board</b>
Circuit-breaker poles	N	<b>4P</b>

### Fuel Consumption

Type		<b>diesel</b>
Standard fuel tank capacity	lt	<b>85</b>
Autonomy @ 75% load	h	<b>19</b>
Fuel consumption at 100% load	lt/h	<b>6,2</b>
Fuel consumption at 75% load	lt/h	<b>4,5</b>
Fuel consumption at 50% load	lt/h	<b>3,2</b>

### General data

Rated capacity	Ah	<b>1x70</b>
Auxiliary voltage	V	<b>12</b>
Exhaust diameter	mm	<b>50</b>

### Weight and Dimensions

Dimensions (l x w x h)	cm	<b>150x80x122</b>
Weight with liquids (excluding optionals and fuel)	Kg (+/-3%)	<b>637</b>

## Engine

Factory		<b>Baudouin</b>
Model		<b>4M06G22/5</b>
Emissions stage		<b>Stage 0</b>
Speed governor		<b>Electronic</b>
Radiator	°C	<b>50</b>
Cooling	Tipo	<b>liquid (water + 50% Paraflu11)</b>
Active net power	Kwm	<b>21,7</b>
Nominal net power	CV	<b>29,5</b>
Cycle	Tipo	<b>4 strokes</b>
Aspiration	Tipo	<b>Natural</b>
Numbers of cylinders	N	<b>4</b>
Cylinders arrangement		<b>L</b>
Bore	mm	<b>89</b>
Stroke	mm	<b>92</b>
Total displacement	lt	<b>2,288</b>
Engine oil features		<b>15W40-API CI-4/CH-4 ACEA E5-E7</b>
Engine oil consumption	%	<b>&lt;0,4% fuel consumption</b>
Total oil capacity	lt	<b>12</b>
Total coolant capacity	lt	<b>16</b>

## Alternator

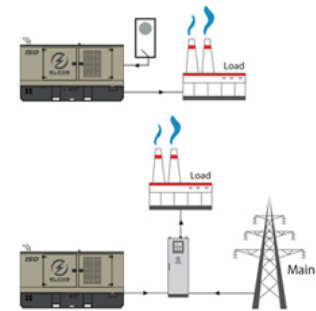
**\* May vary based on stock availability. However, a primary brand will be used.**

Factory		<b>Stamford</b>
Model		<b>S0L2-G1</b>
Prime power prp 3ph+n	KVA	<b>20</b>
Voltage regulator (voltage accuracy)	+/- %	<b>1</b>
Poles	N°	<b>4</b>
Phases	N°	<b>3+N</b>
Standard windings connection		<b>Star Series</b>
Stator/rotor impregnation		<b>H (Outdoor Temp 40°C)</b>
Efficiency	%	<b>86,8</b>
Engine coupling		<b>Elastic disk</b>
Short circuit current		<b>&gt;= 300% (3In)</b>
Protection degree	IP	<b>23</b>
Cooling system		<b>Self ventilating</b>
Maxium overspeed	rpm	<b>2250</b>
Waveform distortion	%	<b>&lt;5</b>
Exciter		<b>Diode bridge</b>

## Standard operating environmental conditions

Ambient temperature	°C	<b>25</b>
Relative humidity	%	<b>30</b>
Max altitude	mt	<b>1000</b>

# Control Systems on board QLE-A-OSC-20



operating scheme - schema di funzionamento

## QLE Multifunction panel without switching on board

The QLE command and control panel offers outstanding protection, monitoring and control for small and middle size generator sets. Elcos's control module MC2 offers advanced features to meet the most demanding on-site application. Elcos's control module MC2 is designed to offer an easy user interface. Variant without transfer switch on board. ATS panel type QC as optional. The panel manages the QC panels directly or any other ATS panel. The output line is protected by a breaker which protects from overload, short circuit.

### Mechanical features

Protection degree	IP	55
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### Battery charger

Model		ELCOS - CB1
Maximum output current	A	2,5
Output dc voltage (selectable)	Vdc	12-24
Input ac voltage (selectable)	Vac	220-260
Frequency	Hz	50-60

### Remotable functions in terminal box

Gs start	Gs lock
Genset contactor close/open command	Mains contactor close/open command
Common alarm - volt free output	Common alarm - dc output
Gs test without load	

## Control Module



Brand	ELCOS
Model	MC2
Operating mode	AMF - MRS

### Specifics

#### Applications

Emergency to the mains  
Stand-alone

#### ENGINE MEASURES

Fuel tank level %  
Total run time  
Battery voltage  
Battery charging voltage  
Start-ups counter  
Engine speed

#### ALTERNATOR MEASURES

Generator voltage I1, I2, I3  
Generator voltage I1-n, I2-n, I3-n  
Generator frequency

#### MAINS MEASURES

Mains voltage I1, I2, I3  
Mains voltage I1-n, I2-n, I3-n  
Mains frequency

#### COMMUNICATION PORTS

Configurable via pc using usb port

#### EQUIPMENT

Microprocessor logic  
Back-lit display  
Programmable by pc software  
10 event log  
Icons management  
Stop button  
Start button  
Aut mode button  
Reset alarm button

#### PRE-ALARMS/ ALARMS

Common alarm  
Fuel reserve (pre-alarm)  
Low fuel level (alarm)  
Charge alternator failed (dinamo)  
Low oil pressure (alarm)  
High coolant temperature (alarm)  
Battery undervoltage  
Gs failure to start  
Gs failure to stop  
Genset overvoltage  
Genset undervoltage  
Genset high frequency  
Genset low frequency  
Maintenance request  
Emergency button pressed  
Genset negative phase sequence

#### VISUALIZATIONS ON CONTROL MODULE/DISPLAY

Pre-alarms  
Alarms  
Engine measures  
Alternator measures  
Mains measures  
Operating mode  
Genset status  
Mains status  
Mains contactor status  
Genset contactor status

#### CONTROL MODULE FUNCTIONS

Automatic start and stop when the mains fails (7)  
Remote start and stop  
Manual start and stop  
Emergency stop button on panel board  
Remote emergency stop  
Remote lock

## OPTIONAL

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### **Canopy Soundproofing**

Soundproofed container 65 dB(A) @ 7 mt  
Soundproofed container 55 dB(A) @ 7 mt and 60/62 dB(A) @ 1mt"  
Air inlet/outlet sound attenuator for room

### **Exhaust**

Exhaust flexible expansion joint  
External residential muffler  
Exhaust flexible pipe  
(fap) anti-particulate filter  
Exhaust catalyst (cat)

### **Fuel Supply**

Bulk tank connections with 3 way valve  
Bulk tank connections  
Automatic fuel refilling system on board

### **Engine**

Engine pre-heater 230vsuper hot  
Oil pressure and coolant temperature gauge (only with qpe or +14 variant)  
Oil change pump  
Engine liquids + 50°C, - 40°C (oil and antifreeze)  
Battery disconnecter  
Automatic refilling oil system  
1000 working hours spare parts kit  
Cyclone air filter  
Redundant start-up battery kit

### **Alternator**

Avr pre-arranged for parallel  
Anti-condensation heater

### **Panel & connection**

Rcd block  
Automatic transfer switch (qc)  
Elcos polyvalent panel (qpe)

## PRP

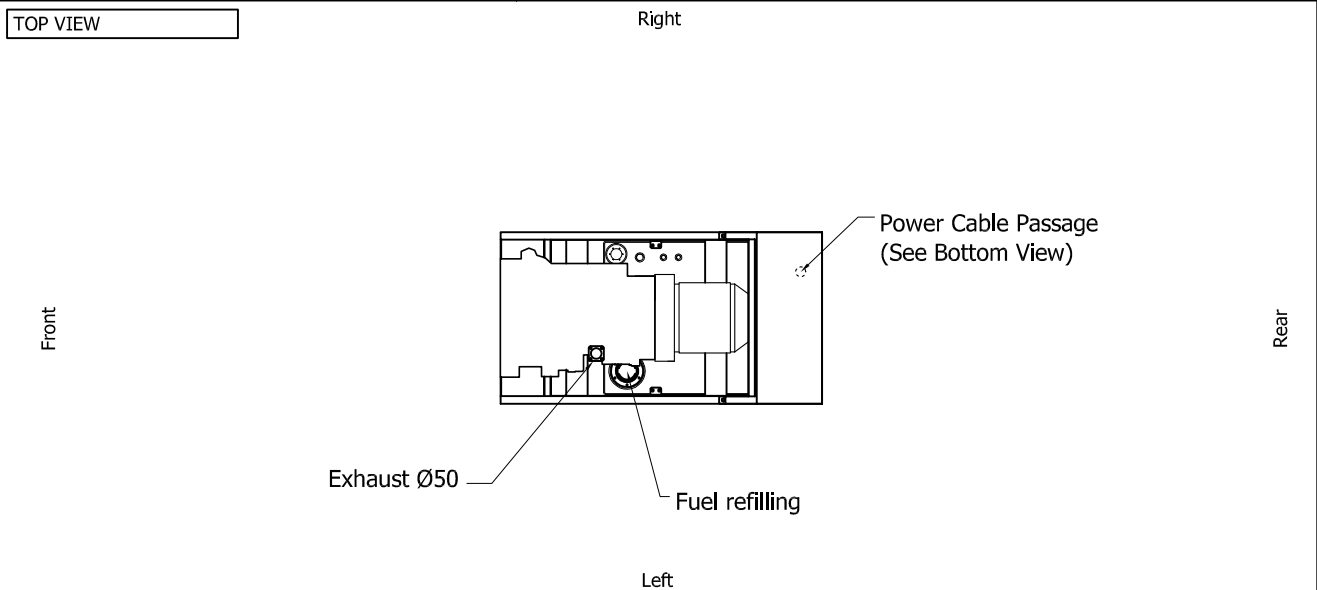
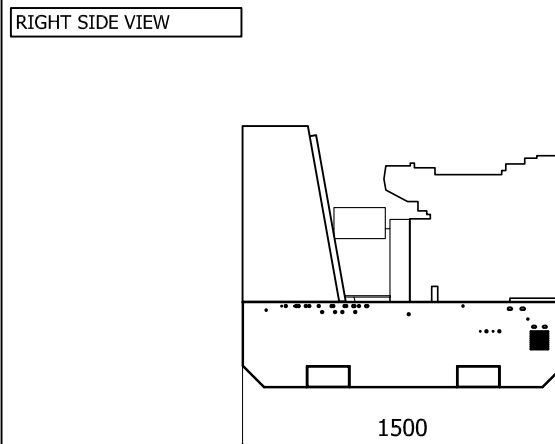
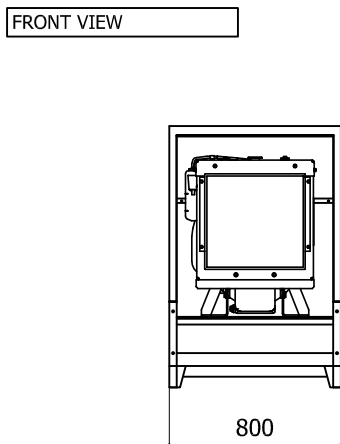
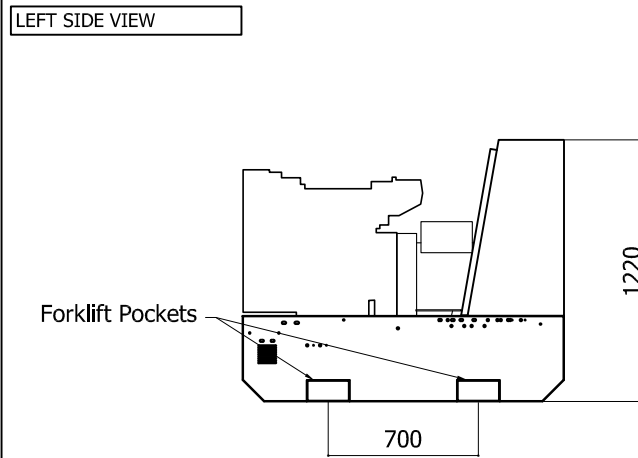
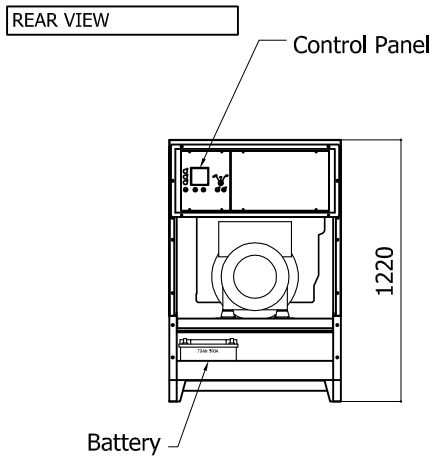
Engines of this rating provide unlimited hours of usage in a variable load application. The average load factor should not exceed 70% of the engine's prime power rating with a maximum number of 500 operational hours at 100% prime power rating. An overload capability of 10% is available, however, is limited to a period of 1 in every 12 hours

## LTP

Limited-time running power is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500h of operation per year with the maintenance intervals. The overload is not allowed.

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**OVERALL DIMENSIONS [mm]**

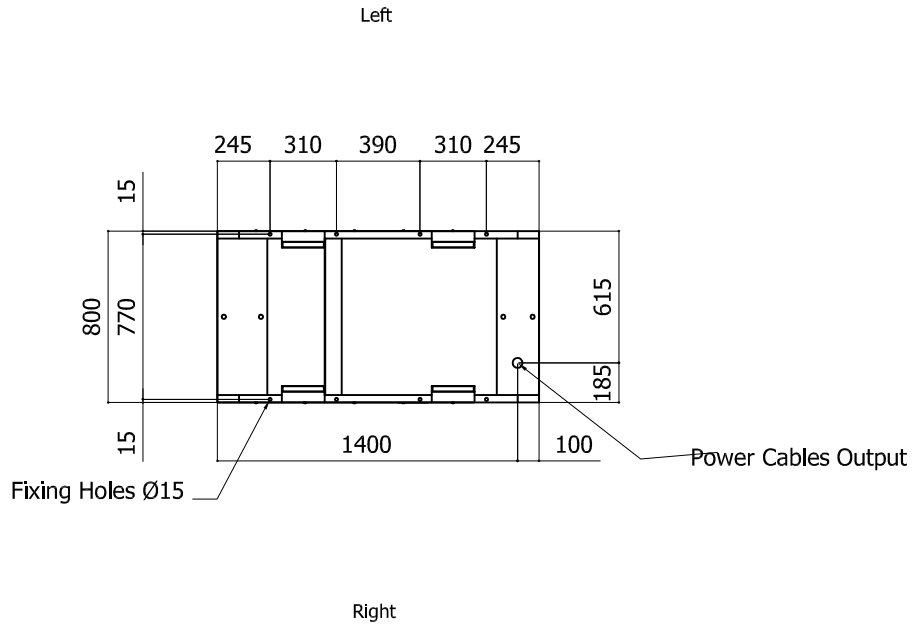


**IMPORTANT:**

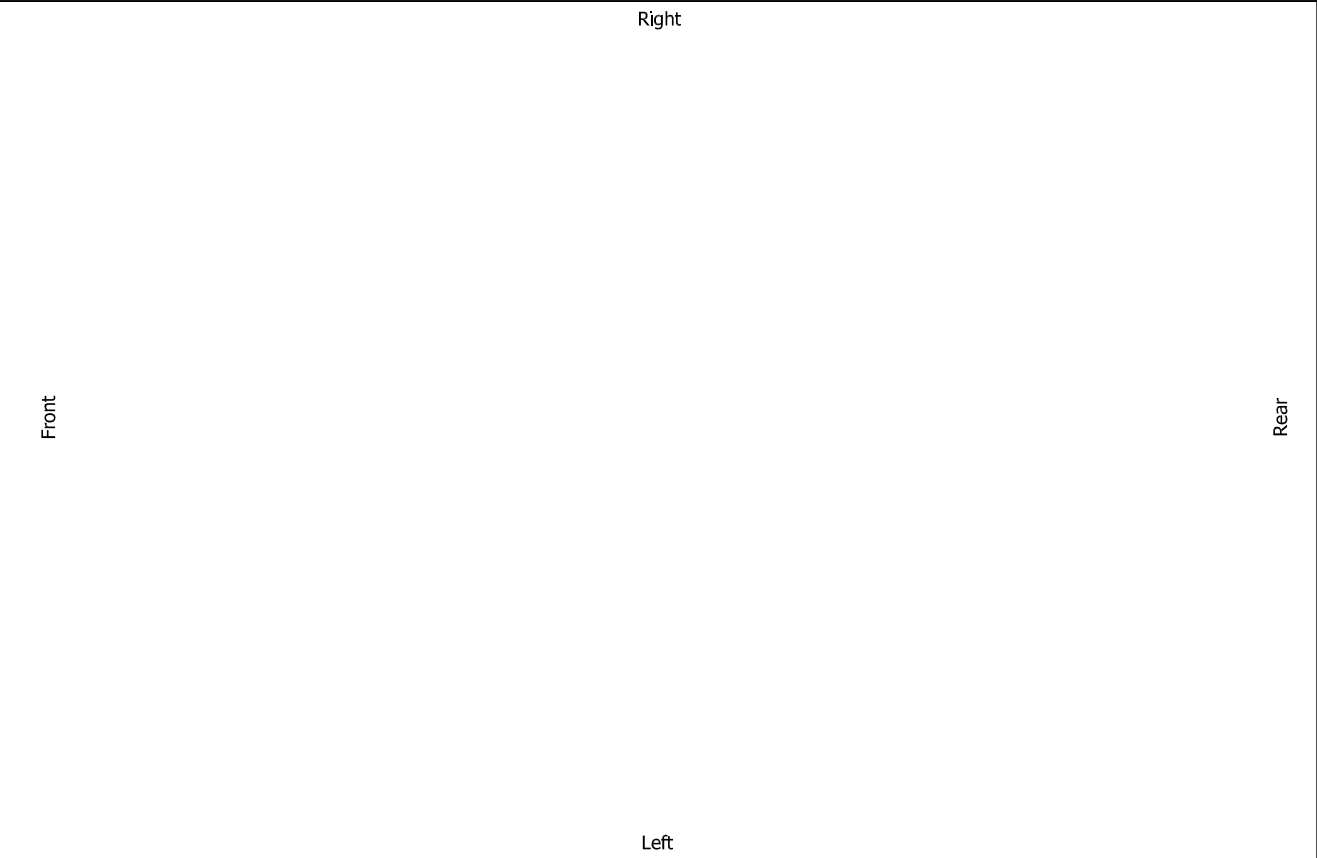
- 1) Form and dimension refer to the generating set on catalogue
- 2) Form and dimension are subject to change in order to update or improve the products
- 3) This document can not be copied or trasmitted without ELCOS S.r.l. approval

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**BOTTOM VIEW**



**DIMENSIONS WITH OPEN DOORS [mm]**



**VENTILATION OF THE ROOM**

The windows area in the generating set room needs to be (recommended):  
 Aspiration: on request  
 Expulsion: on request  
**ATTENTION:** for a correct ventilation the expulsion air and the exhaust gas needs to be conveyed in the open-air

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