



Image for demonstration purposes

 **Generating Set**  
**PROFESSIONAL - Diesel**

## GE.BD.220/200.PRO+011

1500 rpm - Threephase - 50Hz - 400V  
Multifunction panel without switching on board



## Standard equipment

### **Canopy Soundproofing**

- Removable soundproof canopy
- Painting canopy (ral) in galvanized sheet steel
- Soundproofing with class 1 polyester material
- Handles with key lock and automatic closing
- Inspection doors for controls and maintenance
- Inspection doors with hermetic gasket

### **Exhaust**

- Exhaust rain cap
- Insulated exhaust pipes
- Internal residential muffler

### **Fuel Supply**

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

### **Handling**

- N.4 lifting hooks integrated into the bearing structure
- Loadable side by side for truck transportation

### **Base Frame**

- Anti-vibrating mounting pads
- Anti pollution bunded base

### **Engine**

- High coolant temperature and low oil pressure shutdown system
- Oil pressure and coolant temperature gauge (only with qpe or +14 variant)
- 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
- Tamperproof panel ip55
- 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	1500
Frequency	Hz	50
PRP	KVA	200
Prp - prime power	KW	160,0
Ltp - standby power	KVA	220
Ltp - standby power	KW	176,0
Standard voltage	V	400/230
Current	A	289,02
Voltage for current calculation	V	400
Cosfi	0,8	0,8

### General electrical protection

Circuit-breaker rated current	A	320
Type	Magnetothermal switch on panel board	
Circuit-breaker poles	N	4P

### Noise level +/- 3dB(A)

LWA	dB(A)	95
Sound pressure level @ 7 mt	dB(A)	70
Sound pressure level @ 1 mt	dB(A)	79

### Fuel Consumption

Type	Diesel	
Standard fuel tank capacity	lt	250
Autonomy @ 75% load	h	8
Fuel consumption at 100% load	lt/h	42,1
Fuel consumption at 75% load	lt/h	31,6
Fuel consumption at 50% load	lt/h	21,9

### General data

Rated capacity	Ah	1x120
Auxiliary voltage	V	12
Exhaust gas temperature	°C	600
Exhaust gas flow	l/s	618
Combustion air flow	l/s	230
Cooling fan airflow	mc/s	6,9
Exhaust diameter	mm	100

### Weight and Dimensions

Dimensions (l x w x h)	cm	370x122x208
Weight with liquids (excluding optionals and fuel)	Kg (+/-3%)	2523

## Engine

Factory		<b>Baudouin</b>
Model		<b>6M16G220/5</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>174,4</b>
Nominal net power	CV	<b>237</b>
Cycle	Tipo	<b>4 strokes</b>
Aspiration	Tipo	<b>Turbo</b>
Numbers of cylinders	N	<b>6</b>
Cylinders arrangement		<b>L</b>
Bore	mm	<b>126</b>
Stroke	mm	<b>130</b>
Total displacement	lt	<b>9,721</b>
Engine oil features		<b>15W40-API CI-4/CH-4 ACEA E5-E7</b>
Total oil capacity	lt	<b>30</b>
Total coolant capacity	lt	<b>44</b>
Iso 8528-5 class		<b>G2</b>

## Alternator

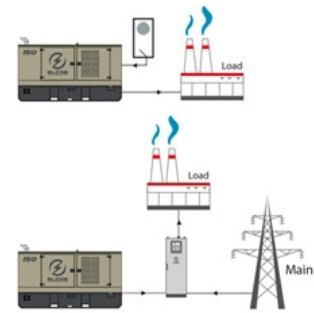
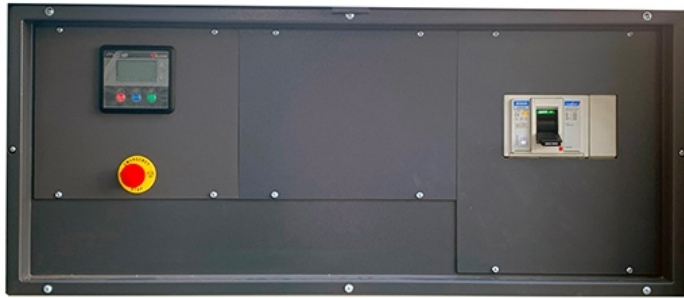
\* **May vary based on stock availability. However, a primary brand will be used.**

Factory		<b>Stamford</b>
Model		<b>UCI274H</b>
Single-phase range	KVA	<b>200</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>93,3</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-SC-3F-4P-400-O3



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 with transfer switch on board. Switching made with a pair of contacts electrically and mechanically interlocked. 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

### Fuel Supply



**O.G-ACO-AT-CI-02**

External tank connections for supply only from external tank (g without tank) GE 130/700



**O.G-ACO-BT-P3700-1000**

600 Lt Oversized Fuel Tank on board for BF/PRO (180/250 kVA) (Increased weight and size)



**O.G-ACO-BT-P3700-600**

1000 Lt Oversized Fuel Tank on board for BF/PRO (180/250 kVA), (Increased weight and size)



**O.G-ACO-ST-BG-ES2**

"Easy" automatic fuel refilling system on board, controlled by QST2 for QLE panel

### Batteries



**O.G-BAT-BAE-03**

Maintenance free high efficiency starter batteries (130/250 kVA)



**O.G-BAT-STB-02**

Battery isolator lockable(130/700 kVA)

### Electrical on board



**O.Q-QLE-K-DIF-M2**

Adjustable differential protection only for MC2 controller for Gen Sets 50/250 kVA



**O.Q-QLE-QBM-COM-AMF25**

Additional price for QBM COMAP AMF25 panel replacing the standard QLE-A.



**O.Q-QLE-QBM-DSE-7320**

Additional price for QBM DSE7320 panel replacing the standard QLE-A.



**O.Q-QLE-QPE-MC4**

Additional price for QPE-C panel with MC4 replacing the standard QLE-A.

### Engine



**O.G-MOT-K-40C-03**

Engine liquids suitable for -40°C ambient temperature for Gen Sets 130/250 kVA



**O.G-MOT-PO-02**

Oil change pump for Gen Sets 130/700 kVA



**O.G-MOT-SC-AC-EL-01**

Engine pre-heater 230V with thermostat on board for Gen Sets 10/100 kVA + 130/250 PRO version



**O.G-MOT-SC-AC-EL-03**

Super hot engine heater 230V with thermostat on board for Gen Sets 130/250 kVA

### Handling



**O.G-MOV-GC-S2700**

Lifting hook (150/250 kVA) PRO Version

**ATS Panels**

**QLTS.250A**

Wall-mounted ATS switching panel 250A 4P (275 kVA 400V - 160 kVA 230V) Dim. 80 x 28 x 60 cm - 40 kg.

**Test**



**MS.CP-LT-02**

FAT - Factory Acceptance Test for single Gen Set from 130 to 400 kVA according to our standard procedures in Elcos factory (max 2 hours - max 4 people - max 1 hour of operation)



**MS.CP-SP-02**

FAT - Factory Acceptance Test for single custom Gen Set from 130 to 400 kVA max 4 operating hours or parallel system up to 4 units for 1 operating hour, in Elcos factory (max 4 hours - max 4 people )



**MS.CP-ST-02**

FAT - Factory Acceptance Test for single Gen Set from 130 to 400 kVA according to our standard procedures in Elcos factory (max 4 hours - max 4 people - max 2 hour of operation)

**PRP**

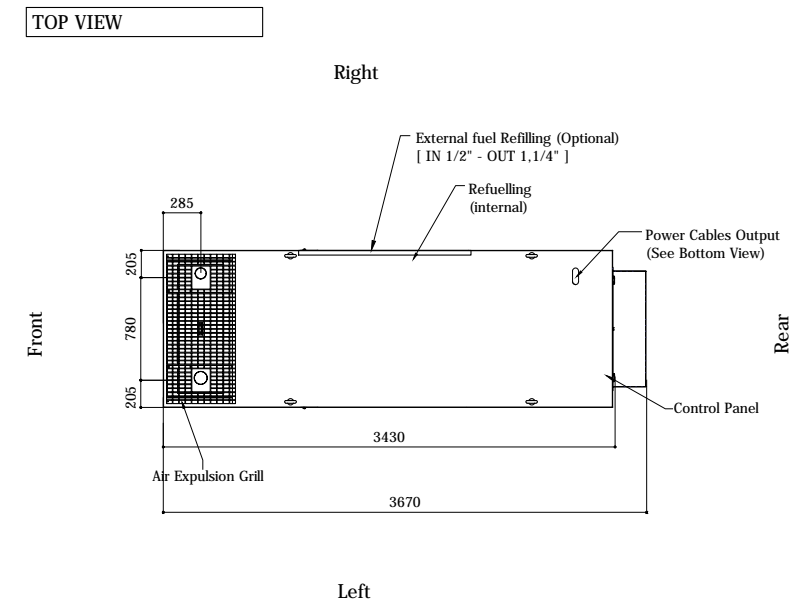
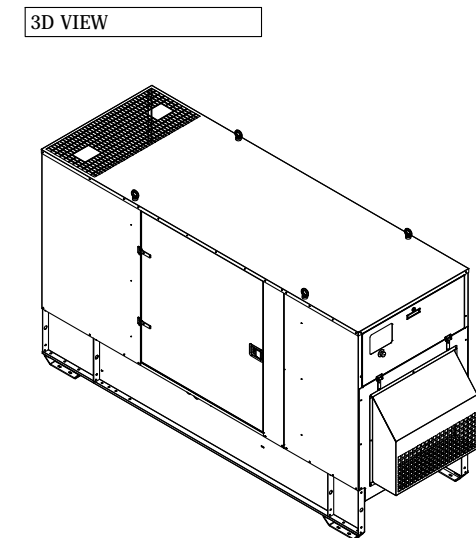
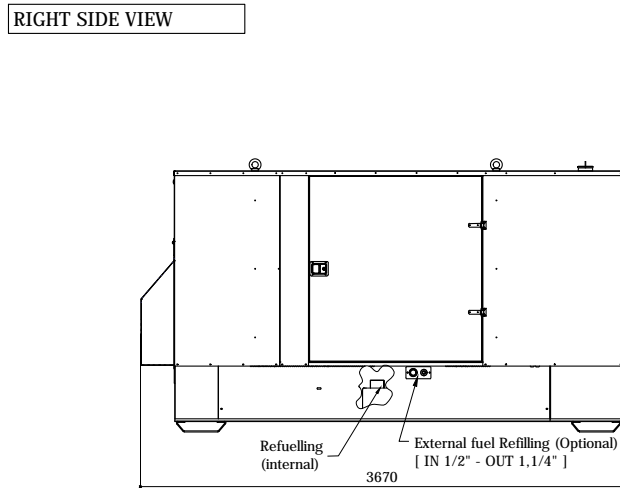
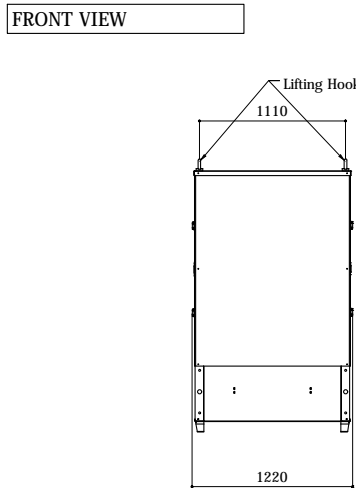
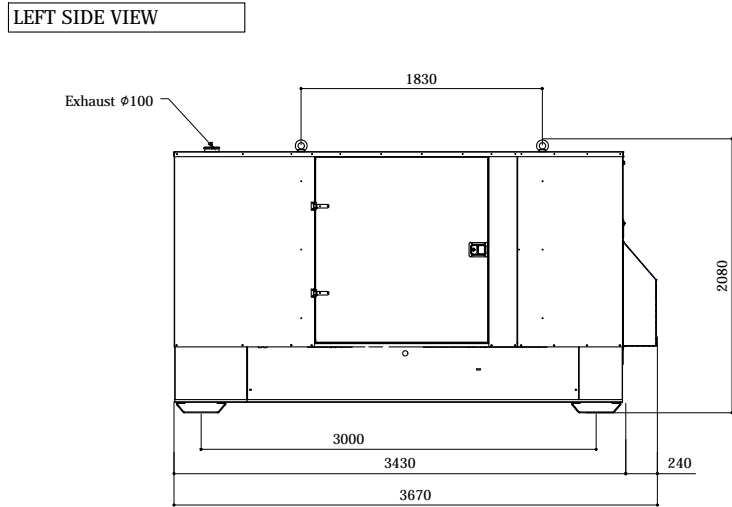
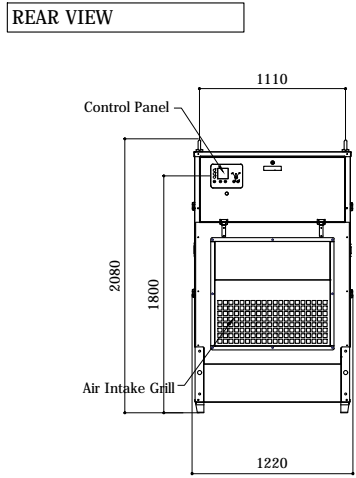
Engines of this rating provide unlimited hours of usage in a variable load application. The average load factor should not exceed 70% of the engine's prime power rating with a maximum number of 500 operational hours at 100% prime power rating. An overload capability of 10% is available, however, is limited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



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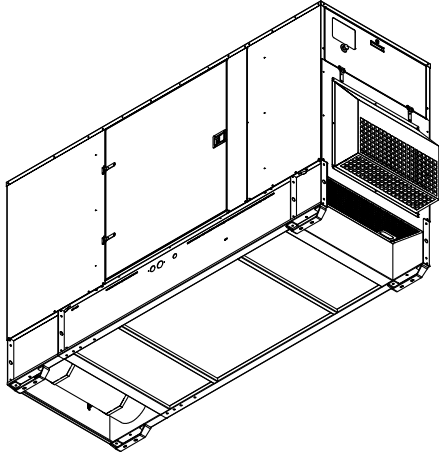
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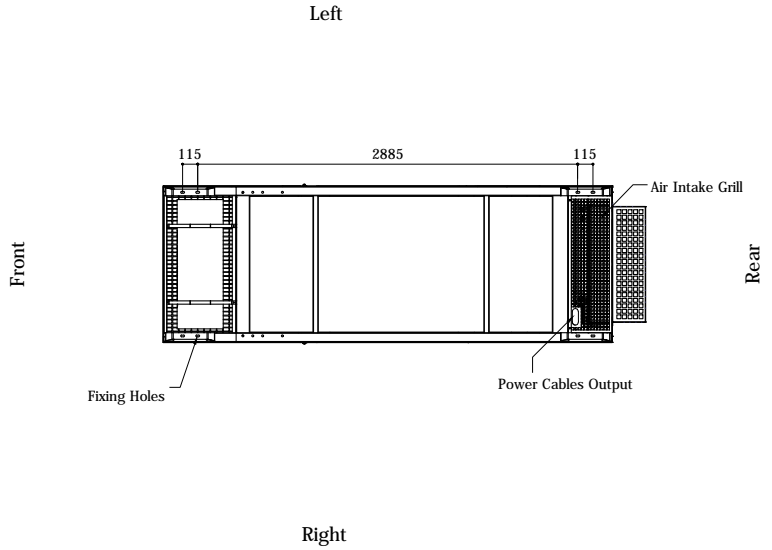


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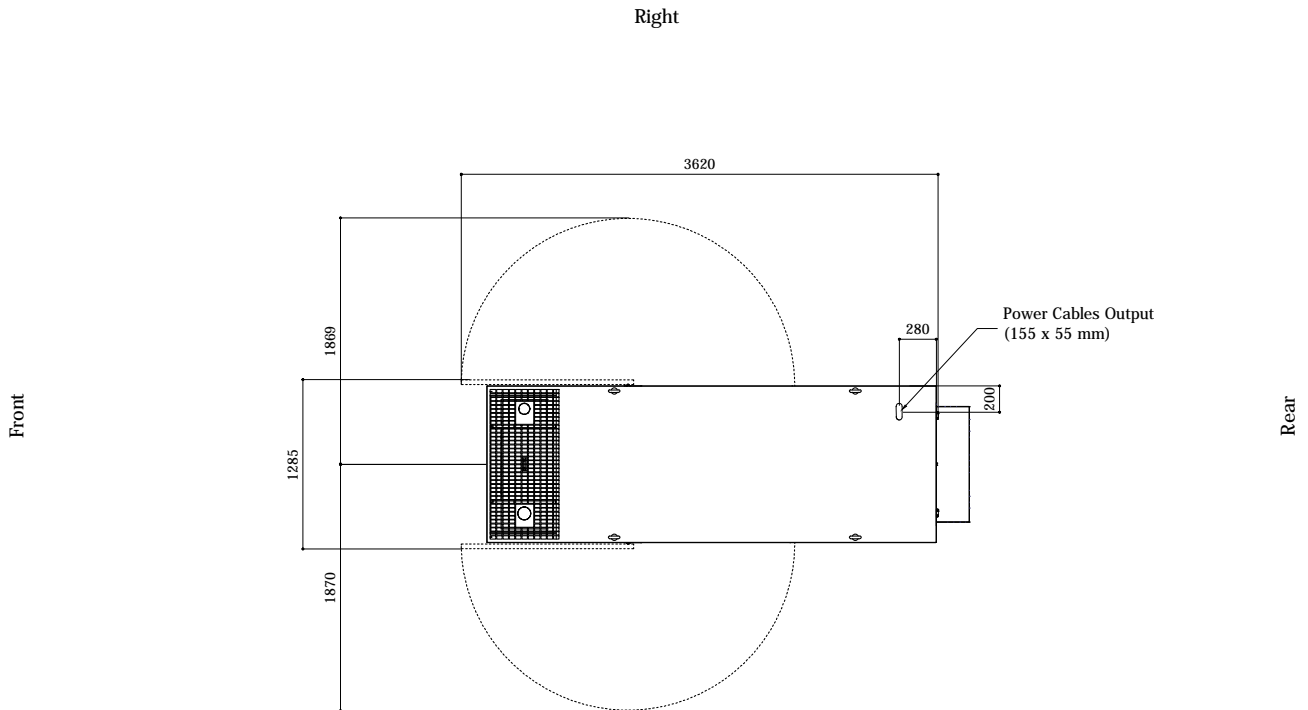
3D BOTTOM VIEW



BOTTOM VIEW



**DIMENSIONS WITH OPEN DOORS [mm]**



Note: With Lifting-Off Door Solution consider only canopy dimensions.  
(Models with "Control Panel" behind rear door will mount a special cover to protect it)

**VENTILATION OF THE ROOM**

The windows area in the generating set room needs to be (recommended):

Aspiration: 0.90 m<sup>2</sup>

Expulsion: 0.60 m<sup>2</sup>

ATTENTION: for a correct ventilation the expulsion air and the exhaust gas needs to be conveyed in the open-air

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