



Image for demonstration purposes


Generating Set
PROFESSIONAL - Diesel

GE.VO.450/410.PRO+011

1500 rpm - Trifase - 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

Oil pressure and coolant temperature gauge (only with QPE or +14 variant)
 Tropicalized radiator
 Electronic speed governor

⚙️ Alternator

AVR Automatic Voltage Regulator
 AVR Pre-arranged for parallel
 Impregnation for marine environment
 IP23

⚙️ Panel & connection

Emergency Stop button
 Magnetothermal circuit breaker on alternator board
 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	410
PRP - Prime power	KW	328,0
LTP - Standby power	KVA	450
LTP - Standby power	KW	360,0
Standard Voltage	V	400/230
Current	A	592,49
Voltage for current calculation	V	400
COSFI	0,8	0,8

General electrical protection

Rated current	A	630
Type	Magnetothermal switch on the alternator board	
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	560
Autonomy @ 75% load	h	10
Fuel consumption at 100% load	lt/h	79,9
Fuel consumption at 75% load	lt/h	60,8
Fuel consumption at 50% load	lt/h	41,2

General data

Rated capacity	Ah	2x180
Auxiliary Voltage	V	24
Exhaust gas temperature	°C	440
Exhaust gas flow	l/s	1058,3
Combustion air flow	l/s	450
Cooling fan airflow	mc/s	6,5
Exhaust diameter	mm	140

Weight and Dimensions

Dimensions (L x W x H)	cm	395x154x220
Weight with liquids (excluding optionals and fuel)	Kg (+/-3%)	4431

Engine

Factory		Volvo
Model		TAD 1344 GE
Emissions stage		Stage 2
Speed governor		Electronic
Radiator	°C	50
Cooling	Tipo	liquid (water + 50% Paraflu11)
Active net power	Kwm	354
Nominal net power	CV	481
Cycle	Tipo	4 strokes
Injection	Tipo	Direct
Aspiration	Tipo	Turbo
Numbers of cylinders	N	6
Cylinders arrangement		L
Bore	mm	131
Stroke	mm	158
Total displacement	lt	12,771
Engine oil features		15W40-API CI-4/CH-4 ACEA E5-E7
Total oil capacity	lt	36
Total coolant capacity	lt	44
ISO 8528-5 class		G3

Alternator

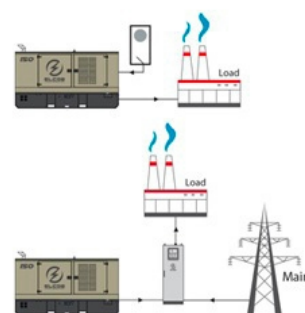
*** May vary based on stock availability. However, a primary brand will be used.**

Factory		Stamford
Model		S4L1D-F
PRP continuous power	KVA	415
Voltage Regulator (voltage accuracy)	+/- %	1
Poles	N°	4
Phases	N°	3+N
Standard windings connection		Star Series
Stator/rotor impregnation		H (Outdoor Temp 40°C)
Efficiency	%	93,2
Engine coupling		Elastic disk
Short circuit current		>= 300% (3In)
Protection degree	IP	23
Cooling system		Self ventilating
Maxium overspeed	rpm	2250
Waveform distortion	%	<5
Exciter		Diode bridge

Standard operating environmental conditions

Ambient temperature	°C	25
Relative Humidity	%	30
Max altitude	mt	1000

Control Systems on board QLE-B-SC-3F-V1



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 Plus offers advanced features to meet the most demanding on-site application. Elcos's control module MC2 Plus is designed for offer an easy user interface. Variant without transfer switch. The panel directly manages the QLTS and QC panels. The output line is protected from overload and short-circuit by a magnetothermic breaker mounted on alternator board.

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

Data Communication

Data connection port	RS-485
Communication protocol	Mod-bus RTU-8N1

Remotable functions in terminal box

GS start	Genset contactor close/open command (1)
Mains contactor close/open command (2)	Remote horn - DC output
Programmable output - Volt free output	

(1) Ready to load function (ARS mode without QC or QLTS panel)(1) Genset contactor open and close command (AMF mode with QC or QLTS panel)(2) Mains contactor open and close command (AMF mode with QC or QLTS panel)

Control Module



Model	MC2 Plus
Operating mode	AMF - ARS

Specifics

Applications

Emergency to the Mains
Stand-alone
Construction site/Rental
Self-production

ENGINE MEASURES

Fuel tank level %
Engine oil pressure BAR (1)
Engine Coolant temperature °C (1)
Total run time
Battery voltage
Start-ups counter
Engine speed

ALTERNATOR MEASURES

Generator Voltage L1, L2, L3
Generator Voltage L1-N, L2-N, L3-N
Generator frequency
Generator current L1, L2, L3
Generator Apparent Power kVA
Generator Active Power kW

COMMUNICATION PORTS

Can-bus port
RS485 port with Mod-bus RTU communication
USB port for parameters saving and firmware update

EQUIPMENT

Microprocessor Logic
Back-lit display
Programmable from display
16 event log
Icons management
STOP button
START button
TEST button
Reset alarm button
Alarm mute button

PRE-ALARMS/ ALARMS

Common Alarm
Fuel reserve (pre-alarm)
Low fuel level (alarm)
Charge alternator failed (dinamo)
Low oil pressure (alarm)
Oil sensor failed (alarm)
High coolant temperature (alarm)
Low water level (1)
Water in fuel (1)
Battery undervoltage
Battery overvoltage
GS failure to start
GS failure to stop
Can-bus Failure
No Can-bus communication
Genset overload L1, L2, L3 phases
Genset short circuit
Genset overvoltage
Genset undervoltage
Genset high frequency
Genset low frequency
overspeed
Earth fault (alarm)
Maintenance request
Emergency button pressed
Remote emergency active
Genset negative phase sequence

VISUALIZATIONS ON CONTROL MODULE/DISPLAY

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

CONTROL MODULE FUNCTIONS

Remote Start and Stop
Manual Start and stop
Emergency stop button on panel board
Remote emergency stop
Remote test on load
Scheduled start-ups
MODBUS commands (Start, Stop, Reset, Test)

Elcos MC2 control module is designed for diesel generating sets. It offers outstanding protection, monitoring and control for small and middle size generator sets.

OPTIONAL

Fuel Supply



O.G-ACO-AT-CI-02

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

Canopy



O.G-COF-PV-02

Lift off doors kit for SS versione (130/400 kVA) and PRO version (130/500 kVA)

Electrical on board



O.Q-QLE-K-DIF-M3

Adjustable differential protection only for MC2-PLUS controller for Gen Sets 10/500 kVA (+011 variant)



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 + 130/500 PRO version



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

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

ATS Panels



QLTS.630A

Wall switching Panel 630 A 4-Poles (430kva 400V) - 80x128x60cm 45 kg

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

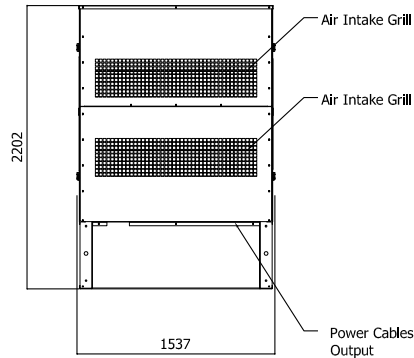
LTP

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.

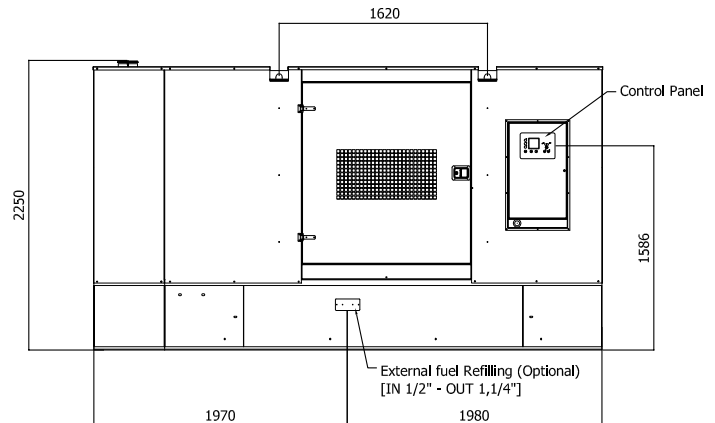
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OVERALL DIMENSIONS [mm]

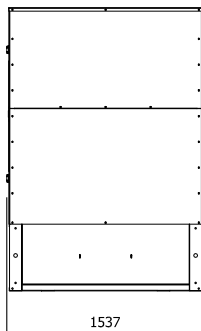
REAR VIEW



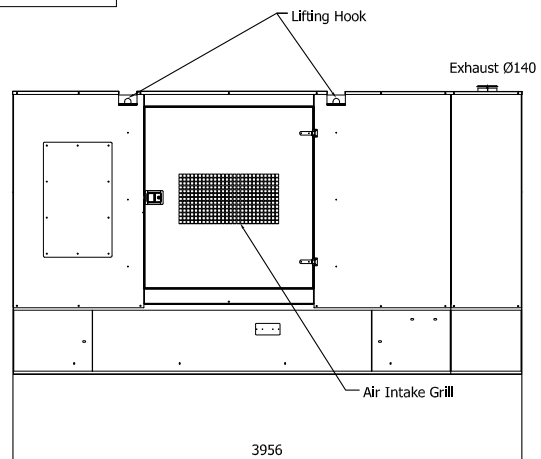
LEFT SIDE VIEW



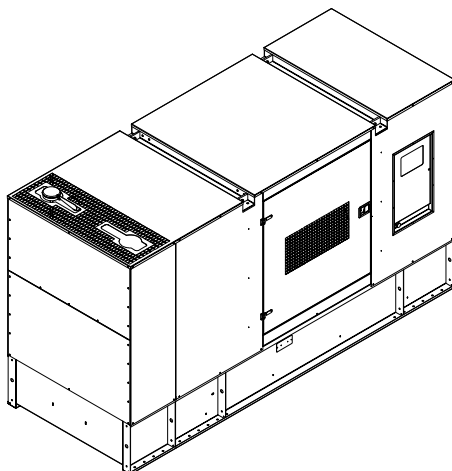
FRONT VIEW



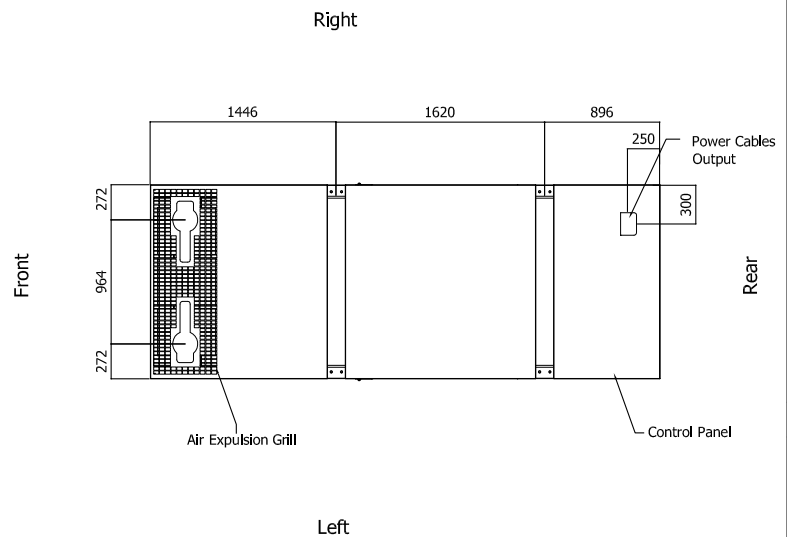
RIGHT SIDE VIEW



3D VIEW



TOP VIEW

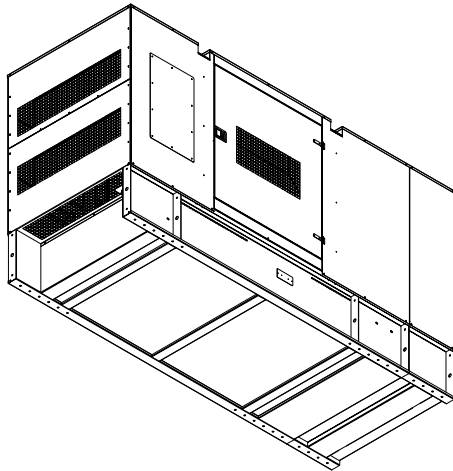


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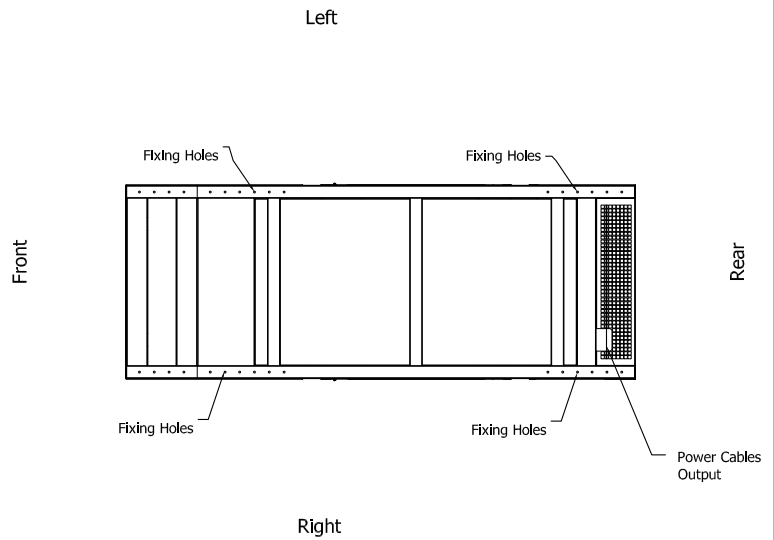
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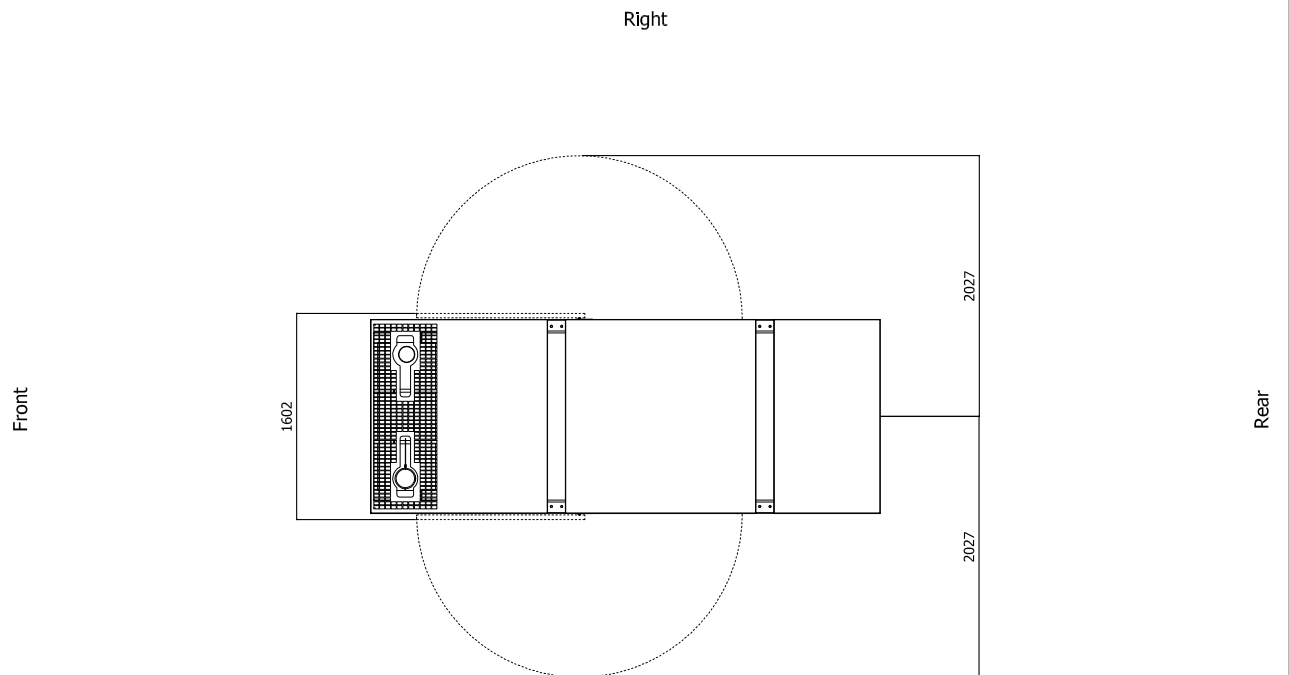
3D BOTTOM VIEW



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 m²

Expulsion: 0.60 m²

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

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