



Generating Set
Diesel

GE.AI.110/100.LT+011

Standard Equipment and features

Canopy - Soundproofing

- Soundproof canopy IP 32 removable
- Polyester class1 soundproofing
- Inspection doors located to facilitate controls and servicing
- Lift off doors kit

Exhaust

- Exhaust tubes protection guards
- External residential muffler -35 dbA

Fuel supply

- Daily fuel tank with inspection hatch to allow cleaning
- Low fuel level shutdown automatic system
- Fuel gauge

Handling

- Anti-turning forklift pockets

Base Frame

- Anti vibrating mounting pads
- Anti pollution Bunded base

Engine

- High coolant temperature and low oil pressure shutdown system
- Engine liquids (oil and antifreeze)
- Tropicalized radiator
- Rotating components protection guards

Alternator

- AVR Automatic Voltage Regulator

Protection & connection Panel

- Magneto-thermal protection on alternator (adjustable only on variant +10 & +11)
- Emergency stop button
- Tamper proof panel
- Power outlet at the bottom
- Earth leakage point
- Machine electric wiring IP 44
- Startup battery (pre-charged)

Documentation

- CE conformity declaration - User and maintenance manuals

Normatives

- All ELCOS Generating sets are compliant to CE Marking
- 2004/108/CE Electromagnetic compatibility
- 2000/14/CE Noise Emission for outdoor use
- Factory-designed systems built at Elcos ISO 9001:2008



Data and technical specifications are subject to change in order to update or improve the products.

Generating Set

Speed	rpm	1500
Frequency	Hz	50
PRP Prime power	kVA	100
Prime power (cosfi 0,8)	KW	80
LTP Limited-time running power	kVA	110
Limited time running pow. (cosfi 0,8)	KW	88
Voltage standard	V	400/230
Current PRP (cosfi 0,8)	A	145

Noise level

LwA	dB(A)	100
Acoustic pressure level to 7 mt	dB(A)	75
Acoustic pressure level to 1 mt	dB(A)	84

Fuel consumption

Fuel type	Type	Diesel
Fuel tank capacity	lt	110
Autonomy at 3/4 load	h	7
Fuel consumption at 4/4 load	l/h	22
Fuel consumption at 3/4 load	l/h	15.6
Fuel consumption at 2/4 load	l/h	11

General Features

Battery capacity	Ah	1x120
Voltage	Vdc	12
Exhaust tube diameter	mm	80
Exhaust temperature	°C	535
Combustion air flow	l/s	118.6
Cooling Fan air flow	m3/s	2.2

Dimensions / weight

Dimensions (L x w x h)	cm	215x100x200
Weight inclusive of liquids (oil and antifreeze)	kg	1300

COP

It is the power that the generating set is capable to supply, in continuous operation, for an unlimited number of hours per year at the reference environmental conditions. This is valid as long as the engine undergoes a scheduled maintenance, as specified by the manufacturer. The generating set is able to provide power equal to 100% of the nominal load. COP power is typically 30% lower than the LTP one. No overload capability is allowed for this rating.

PRP

Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.

LTP

Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. This rating is applicable to installations served by a reliable normal utility source. This rating is only applicable to variable loads with an average load factor of 80 percent of the standby rating for a maximum of 200 hours of operation per year and a maximum of 25 hours per year at 100% of its standby rating. The standby rating is only applicable to emergency and standby applications where the generator set serves as the back up to the normal utility source. No sustained utility parallel operation is permitted with this rating. (Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally Rated.

Engine

Factory		Iveco
Emissions		Stage 2
Model		NEF N45TM2A
Speed governor		Mechanical
Cooling system	Type	liquid (water + 50% Paraflu11)
Speed	rpm	1500
Nominal power	CV	119.9
Gross engine power	KWm	87.5
Cycle	Type	diesel 4 stroke
Injection	Type	direct
Aspiration	Type	Turbo
Numbers of cylinders	N°	4L
Bore x stroke	mm	104 x 132
Total displacement	lt	4.5
Engine oil features		15W40-API CG4-ACEA E3-E5
Engine oil consumption	%	0.1% fuel consumption
Total oil capacity	lt	12.8
Coolant liquid capacity	lt	10

Alternator

Factory *		Marelli
Model		MJB225MA4
Prime power 3F+N 400V (480V)	kVA	105
Prime power 1F+N 230V (240V)	kVA	42.0
Voltage regulator		+/-0.5%
Poles	N°	4
Phases	N°	3+N
Standard windings connection		star serie
Stator/rotor impregnation		H (ext. temp. 40°C)
Efficiency pf=0,8 4/4	%	91.8
Couple engine		elastic disk
Short circuit current		>=300% (3In)
Degree of protection		IP 23
Cooling system		autoventilate
Maxium overspeed	RPM	2250
Waveform distortion	%	< 2
Exciter		diode bridge

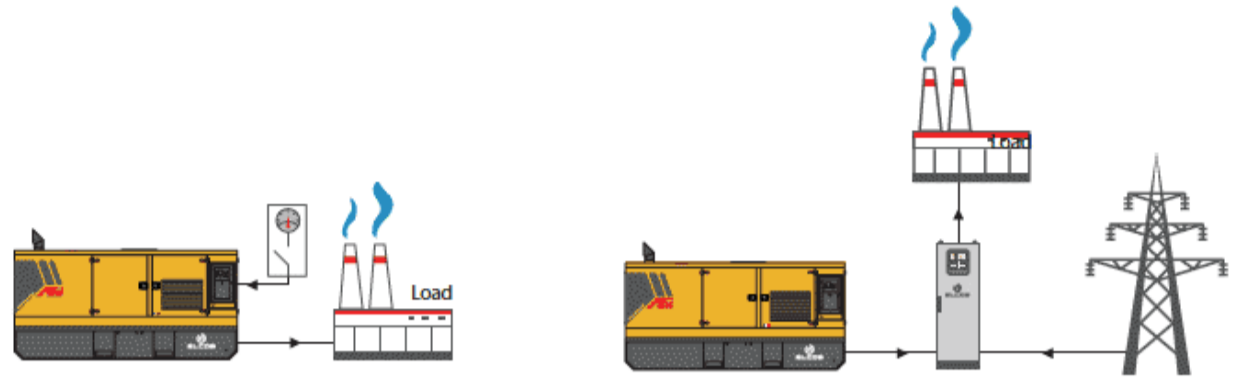
* Availability will vary according to the warehouse stock. However, in any case a primary brand will be used.

Standard operating environmental conditions

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

Control Systems on board**Variant +11 (QLE-A-V-SC (50-250 LT))
Multifunction panel without switching on board**

The multifunctional QLE panel is suitable for the management, protection and monitoring of generating sets when the mains fails (AMF) or in self-production continuous operating mode. The QLE panel has a double operating mode: MANUAL or AUTOMATIC, which guarantees the right protection, analysis and control of the generating set to every type of functionality. Variant +011 has separate ATS panel (optional). The panel manages the QC panels directly or any transfer panel. Degree of protection IP55.



Control module

MC2
Description

Elcos's control module MC2 is designed for diesel generator sets.

It offers outstanding protection, monitoring and control for small and middle size generator sets.

Elcos's control module MC2 incorporates a number of advanced features to meet the most demanding on-site application.

It includes USB port, LCD screen.


Applications:

- ◆ Emergency to the mains (AMF)
- ◆ Self-production
- ◆ Construction site
- ◆ Rent

FEATURES

→ Controls

- Manual start up and stop
- Automatic start up and stop from AMF
- Test on load with external timer (only with AMF mode enable)
- Remote start from dry-contact (only with AMF mode disable)
- G.S. locked from external
- Emergency stop button
- Mains counter command closed
- Genset counter command closed

→ Engine Measures

- Fuel level %
- Total operating hours
- Battery charger voltage
- Start up counter
- Engine speed

→ Alternator Measures

- Gen set voltage three-phase RST
- Gen set star voltage RN,SN,TN.
- Gen set frequency

→ Main Measures

- Mains voltage RST
- Mains frequency

→ Equipment

- Microprocessor logic
- Backlit refractive display
- 10 events alarm history list
- Icons management
- Troubleshooting with suggestions

→ Protections

- Failed to start
- Failed to stop
- Low oil pressure
- High temperature
- Generator battery charger
- Genset overvoltage
- Genset undervoltage
- Genset maximum frequency
- Genset minimum frequency
- Phase rotation

→ Signal

- Start up
- Stop
- Battery connected
- Battery charging
- Battery undervoltage
- Battery overvoltage
- Genset connected
- Mains connected
- Mains overvoltage
- Mains undervoltage
- Emergency button pressed
- Cumulative alarm
- No fuel

Optional

Canopy - Soundproofing

- IP 43 Conveyors

Exhaust

- Exhaust flex tube

Fuel supply

- Diesel connections
- Automatic fuel refilling system
- Tank connections 3 way valve

Handling

- Lifting lug integrated in the lifting structure

Engine

- Engine heater 230 V
- Oil change pump
- Battery DC circuit breaker
- -40 C° Engine liquids
- 1000 working hours spare parts kit

Protection & connection Panel

- Differential protection (adjustable only on variant +10 & +11)

Panel

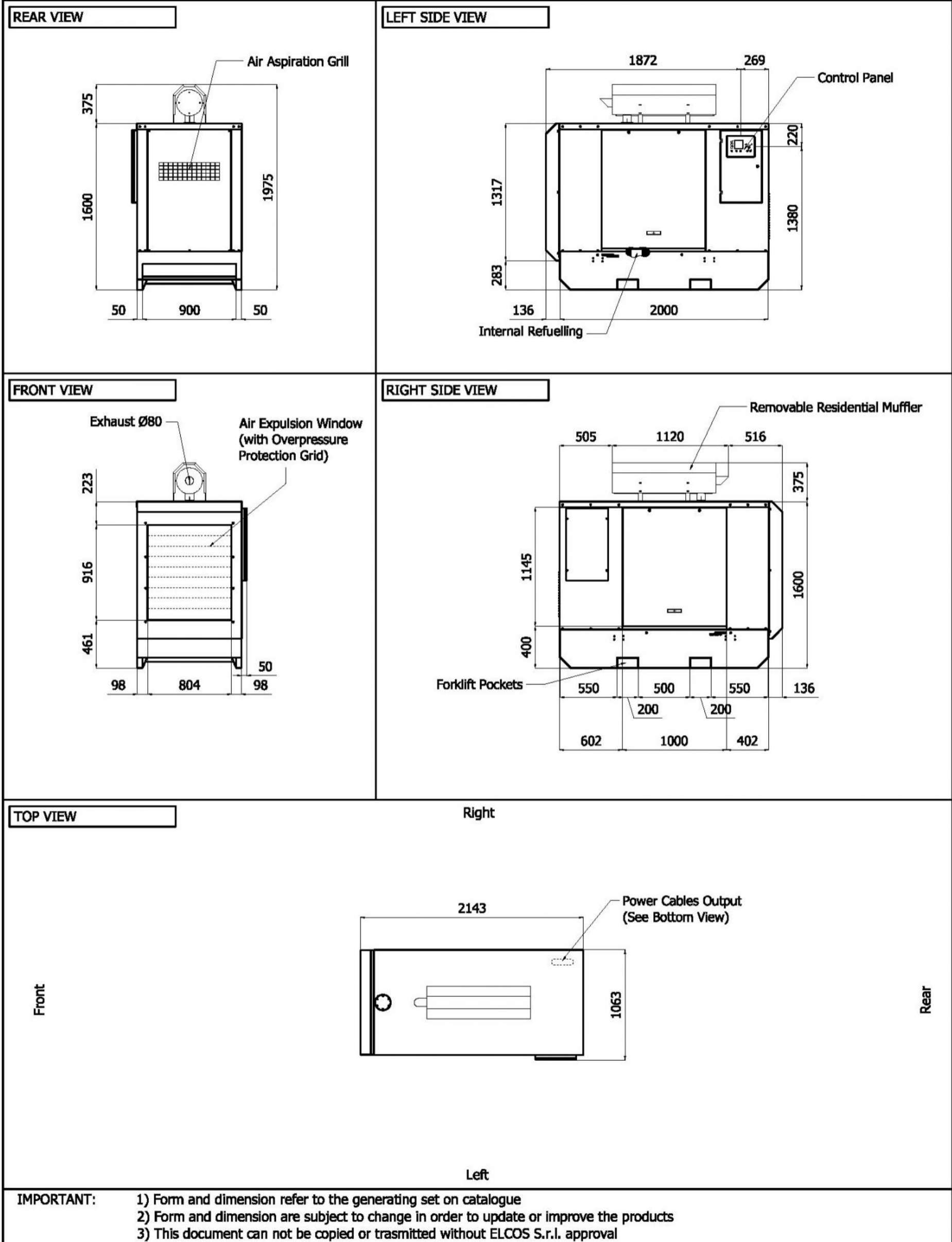
- ATS switching cabinet (QC) (only variant +11)
- Multifunction Panel Elcos

Other

- Toolbox for ordinary maintenance

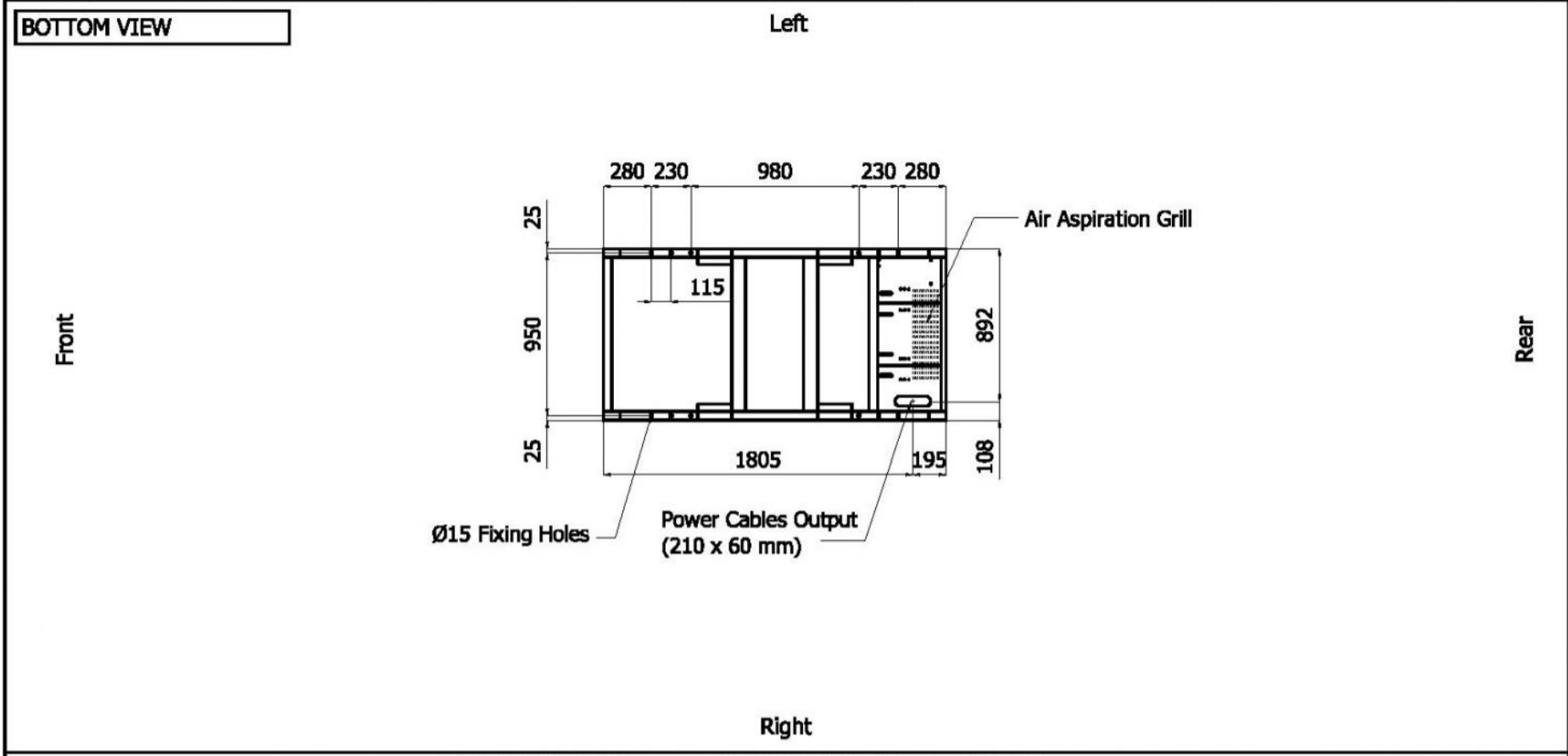
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OVERALL DIMENSIONS [mm]

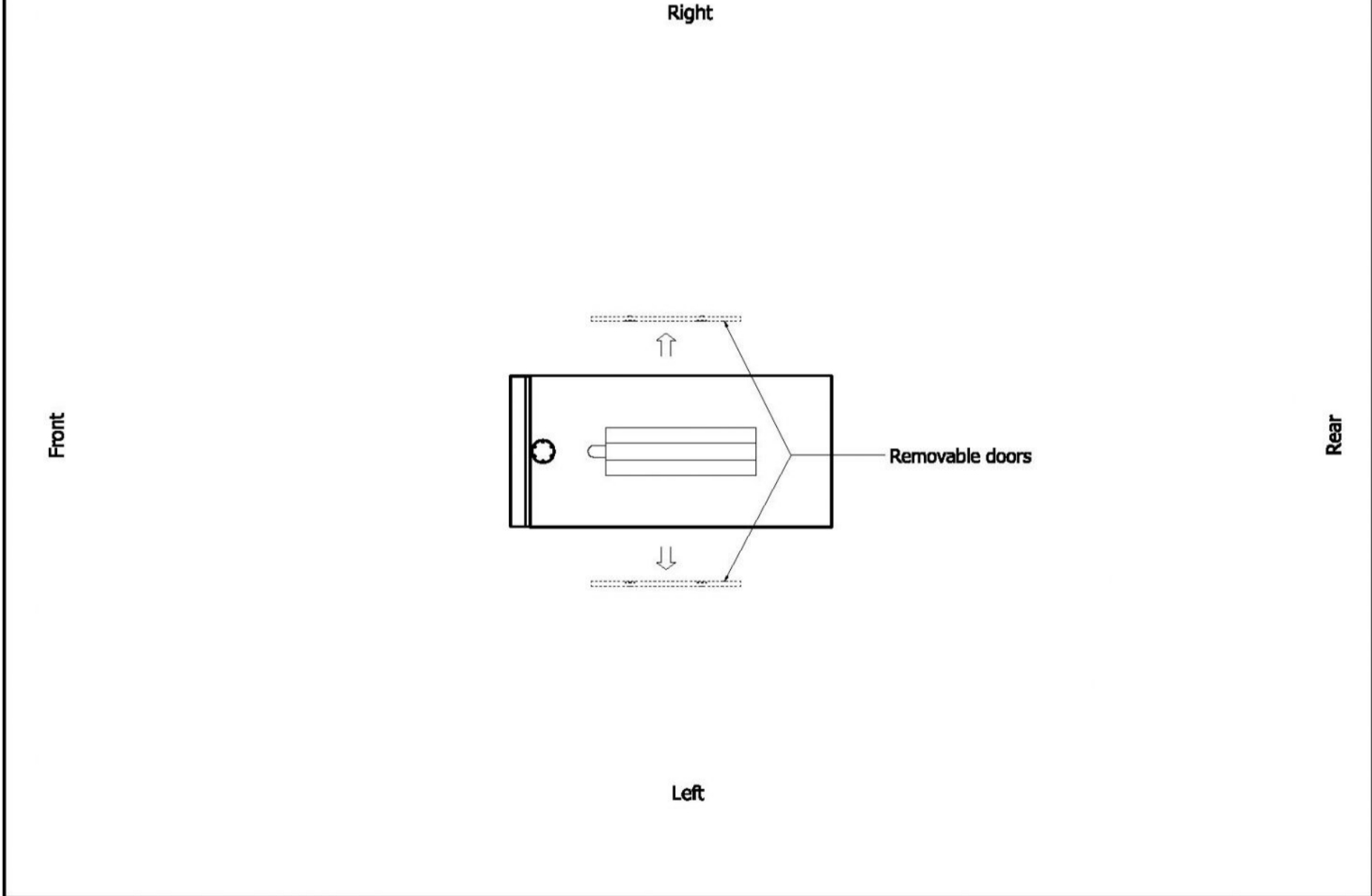


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DIMENSIONS WITH OPEN DOORS [mm]



VENTILATION OF THE ROOM

The windows area in the generating set room needs to be (recommended):
 Aspiration: 1.20 m²
 Expulsion: 0.75 m²
ATTENTION: for a correct ventilation the expulsion air and the exhaust gas needs to be conveyed in the open-air

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 transmitted without ELCOS S.r.l. approval

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