



Image for demonstration purposes

 **Generating Set**
SUPERSILENT - Diesel

GE.YAS5.037/033.SS+012

1500 rpm - Trifase - 50Hz - 400V
Manual panel with sockets module



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
Special baffles for air intake and air expulsion
Inspection doors for controls and maintenance

Exhaust

Exhaust rain cap
Insulated exhaust pipes
Internal residential muffler - 35dB(A)

Fuel Supply

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

Handling

Lifting hook integrated into the bearing structure
Base frame with anti-overturning forklift pockets
forkliftable on the short side

Base Frame

Bunded base at 110% of fuel tank capacity
Anti-vibrating mounting pads
Battery compartment externally accessible for easy service

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
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 - Prime power	KVA	33
LTP - Standby power	KVA	37
PRP - Prime power	KW	26,4
LTP - Standby power	KW	29,6
Standard Voltage	V	400/230
Current	A	47.69
Voltage for current calculation	V	400
COSFI	0,8	0,8

General electrical protection

Rated current	A	50
Type	Magnetothermal switch on panel board	
Poles	N	4P

Noise level +/- 3dB(A)

LWA	dB(A)	88
Sound pressure level @ 7 mt	dB(A)	63
Sound pressure level @ 1 mt	dB(A)	72

Fuel Consumption

TYPE	Diesel	
Standard Fuel Tank capacity	lt	110
Autonomy @ 75% load	h	17
Fuel consumption at 100% load	lt/h	9
Fuel consumption at 75% load	lt/h	6,8
Fuel consumption at 50% load	lt/h	4,8

General data

Rated capacity	Ah	1x100
Auxiliary Voltage	V	12
Exhaust gas temperature	°C	550
Exhaust gas flow	l/s	106,9
Combustion air flow	l/s	36,2
Cooling fan airflow	mc/s	0,56
Exhaust diameter	mm	60

Weight and Dimensions

Dimensions (L x W x H)	cm	190x90x154
Weight with liquids (excluding optionals and fuel)	Kg (+/-3%)	931

Engine

Factory		Yanmar
Model		4TNV98C-IYE
Emissions stage		Stage 5
Speed governor		Electronic
Radiator	°C	50
Cooling	Tipo	liquid (water + 50% Paraflu11)
Active net power	Kwm	35,2
Nominal net power	CV	48,7
Cycle	Tipo	4 strokes
Injection	Tipo	Direct
Aspiration	Tipo	Natural
Numbers of cylinders	N	4
Cylinders arrangement		L
Bore	mm	98
Stroke	mm	110
Total displacement	lt	3,319
Engine oil features		15W40-API CI-4/CH-4 ACEA E5-E7
Total oil capacity	lt	10,5
Total coolant capacity	lt	11

Alternator

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

Factory		Stamford
Model		S1L2-J1
PRP continuous power	KVA	35
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	%	88
Engine coupling		Elastic disk
Short circuit current		3x In (only with winding wdg 711)
Protection degree	IP	23
Cooling system		Self ventilating
Maxium overspeed	rpm	2250
Waveform distortion	%	<5
Exciter		Diode bridge

Environmental conditions

Ambient temperature	°C	40
Relative Humidity	%	60
Max altitude	mt	1000

Control Systems on board QPE-C-MAN-3F-4P-50-O1

QPE Manual panel with sockets module

The manual control panel type QPE-C-MAN provides a reliable and simple solution for the control of the generating set. Thanks to the MC4 control module, the QPE control panel can allow the manual start and stop of the gen set and it can monitor the different parameters during its operation. The MC4 module allows you to connect some optional devices (provided by Elcos) for a complete remote management of the gen set.

Mechanical features

Protection degree	<i>IP</i>	55
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Sockets module

Protection	<i>Type</i>	Differential Magnetothermal breakers
Differential Sensivity	<i>mA</i>	30 (only for 16A and 32A)
Sockets		N. 1 CE 2P+T 16A 230V
Sockets		N. 1 CE 3P+N+T 16A 400V
Sockets		N. 1 CE 3P+N+T 32A 400V
Sockets		N. 1 CE 3P+N+T 63A 400V

Data Communication

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

Remotable functions in terminal box

GS start	GS lock
Genset contactor close/open command (1)	Common Alarm - Volt free output
Common Alarm - DC output	Remote horn - DC output
GS test without load	GS start with key in OFF position (Only in MRS mode)
Programmable output - Volt free output	Management of the automatic fuel refilling system

(1) Ready to load function (MRS mode only)(2) AMF mode only

Control Module



Model	MC4
Operating mode	Manual

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
Partial run time
Hours to maintenance
Battery voltage
Battery charging voltage
Start-ups counter
Engine speed (2)
Engine Oil temperature (2)
Cooler temperature (2)
Engine oil level (2)
Engine coolant level (2)
Engine coolant pressure (2)
Turbo pressure (2)
Fuel Consumption (2)
Tank autonomy - hrs (5)
Fuel remaining quantity (5)
Fuel used quantity (5)

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
Generator Reactive Power kVAR
Generator accumulated power kWh
Power factor Cosfi

MAINS MEASURES

Mains voltage L1, L2, L3
Mains voltage L1-N, L2-N, L3-N
Mains frequency

COMMUNICATION PORTS

Can-bus port
RS485 port with Mod-bus RTU communication
RS232 port for display connection
USB port for parameters saving and firmware update

EQUIPMENT

Microprocessor Logic
Back-lit display
Programmable from display
16 event log
Multiple display languages
STOP button
START button
TEST button
Reset alarm button
Alarm mute button
Fuel transfer pump activation button
Glow-plug activation button

PRE-ALARMS/ ALARMS

Common Alarm
Fuel reserve (pre-alarm)
Low fuel level (alarm)
Tank overflow
Charge alternator failed (dinamo)
Low oil pressure (pre-alarm) (1)
Low oil pressure (alarm)
Oil sensor failed (alarm)
High coolant temperature (pre-alarm) (1)
High coolant temperature (alarm)
Low coolant temperature (pre-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
Reverse power
Earth fault (pre-alarm)
Earth fault (alarm)
Block from password
CAN communication Failed
Maintenance request
Emergency button pressed
Remote emergency active
Forced stop
External battery failed
Fuel theft
Genset negative phase sequence
Mains negative phase sequence
Fuel theft protection

VISUALIZATIONS ON CONTROL MODULE/DISPLAY

Pre-alarms
Alarms
Engine measures
Alternator measures
Mains measures
Date and time
Operating mode
Genset status
Mains status
Mains contactor status
Genset contactor status
Digital Input and Output status
Grounding current mA (3)
Grounding current threshold mA (3)
Delay time of differential protection (3)
Glow plugs status

CONTROL MODULE FUNCTIONS

Automatic start and stop when the Mains Fails (7)
Remote Start and Stop
Remote Start and Stop with key in OFF position
Manual Start and stop
Emergency stop button on panel board
Remote emergency stop
Remote lock
Remote test without load
Remote test on load
Scheduled start-ups
MODBUS commands (Start, Stop, Reset, Test)

CONTROL MODULE SPECIAL FUNCTIONS (on demand)

Automatic charging of an external battery
Dummy load (4)
Load shedding (4)
Redundant starter motor management
Fuel monitoring
GS battery Load test
Idle mode
Service phone number indication
Variable speed Generator
Master / Slave mode

- (1) Present only with the sensor installed on engine (optional)
(2) Present according to the engine equipment and to the ECU type (ECU - Canbus)
(3) Present only with the residual current device mounted on genset board
(4) Present with optional expansion modules
(5) Present with special function activated
(6) Only with the optional of the automatic fuel refilling system on board
(7) Only in AMF mode

OPTIONAL

Fuel Supply



O.G-ACO-AT-C3V-01

External fuel tank connections with 3-way valve for supply from internal or external tank (10/100 kVA)



O.G-ACO-AT-C3V-AR-01

Quick coupling connectors with 3-way valve for internal or external fuel tank connection (10/100 kVA)



O.G-ACO-AT-CI-01

External tank connections for supply only from external tank (g without tank) GE 10/100

O.G-ACO-BT-C1900-0600

600 Lt Oversized Fuel Tank on board for SS (30/40 kVA)



O.G-ACO-BT-C1900-1000

1000 Lt Oversized Fuel Tank on board for SS, RB (30/40 kVA)



O.G-ACO-GA-01

Mechanical analogue float for internal fuel tank on board



O.G-ACO-GA-02

Electrical analogue float to monitor the external refilling point on board



O.G-ACO-RE-01

External refilling point for Gen Sets 10/250 kVA, SS, RB versions



O.G-ACO-RE-SP-01

External refilling point with warning light for Gen Sets 10/250 kVA, SS, RB versions

O.G-ACO-SC-AC-EL-01

Diesel heater installed in the tank 220W 230V usable for RB 10/500, SS 130/750 and all oversized tanks (for GE from 10 to 100 KVA SS replace the tank from plastic to metal using the article O.G-ACO-TK-ST -...)



O.G-ACO-SP-01

Tank leak sensor with signal reported in the QPE/QLE-B control panel

Alternator

O.G-ALT-AL-CHBR-01

Different brand alternator (10/40 kVA)

O.G-ALT-SEZ-IT-TN

Disconnecter for IT/TN system installed on the alternator for Gen-sets from 10 to 500 KVA only SS and RB version (check the feasibility)

Batteries



O.G-BAT-BAE-01

Maintenance free high efficiency starter batteries (10/40 kVA)



O.G-BAT-STB-01

Battery isolator lockable (10/100 kVA)

Canopy


O.G-COF-AM-01

Hinges and Doors with tamper-proof device (10/100 kVA)


O.G-COF-AP-01

Door opening alarm system (each door)

O.G-COF-C1900-INOX

Additional cost for stainless steel canopy (C1900)


O.G-COF-CA-C1900

IP 43 Conveyors for Gen Sets 25/40 kVA - supplied disassembled


O.G-COF-CH-02

Additional cost for larger canopy C2200 instead of standard C1900 - Dim. cm 220x110x165H - Fuel Tank 250 lt

O.G-COF-DLO-C1900-07KW

Dummy Load 7kW on board for Gen Sets 25/30 kVA (Add optional O.Q-QPE-RIL-16RELE in case of MC4 control. Add optional O.Q-QBM-COM-BIO8 for Comap AMF25, IG200, IG500 control. For other controls, check with technical department.)


O.G-COF-EAF-02

Frontal air expulsion for Gen Sets 25/40 kVA (C1900) (change the noise level)


O.G-COF-FP-01

Door stop (10/100 kVA)

O.G-COF-IL-INT-01

Internal LED lighting with micro-switches for Gen Sets 10/250 kVA

O.G-COF-MC-INOX-01

Stainless steel handles and hinges (10/100 KVA SS, RB, PRO)


O.G-COF-PC-01

Steel cable holder for SS and RB versions from 10 to 40 KVA applied to the radiator inspection panel (Weight 20 Kg)


O.G-COF-PV-01

Lift off doors kit (10/100 kVA) for SS and PRO version

O.G-COF-TRT-MAR-01

High resistance canopy treatment for corrosive environments for 10/40 kVA (SS, RB Versions)

O.G-COF-VER-PAR-01

Canopy custom paint (Grey base-frame) for 10/40 kVA (SS, RB Versions)


O.G-COF-VER-TOT-01

Total canopy custom paint for 10/40 kVA (SS, RB Versions)

 Electrical on board

O.G-USP-63A5P

Output power socket 63A EC 5P (25/40 kVA) for Gen Sets SS Version +011 (specify if 6H or 1H)


O.G-USP-MO-01

Terminal box with tightening terminals inside the cable entry compartment for Gen Sets 10/40 kVA SS Version


O.G-USP-MPRB-01

RB module with 5 sockets, 1 plug and power cable access for GE from 30 to 40 KVA SS version, +011 variant (check feasibility)


O.G-USP-SW-MOT.0010-0040

Motorization switch on board machine, integrated in the panel for 10/40 Kva Ge - (for variant +11)

O.Q-QBM-CPI-BEN-01

Permanent insulation controller for IT networks up to 230V / 400V. BENDER IR423-D4-1. Adjustable threshold 10 ÷ 300 kohm. (2 DIN rail modules - check feasibility)


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

QBM COMAP AMF25 panel replacing the standard QLE


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.


O.Q-QMC-K-DIF-R1

Adjustable differential protection only for QMC panel for Gen Sets 10/40 kVA (Variant +010 / +011)


O.Q-QMC-RX8-QMC

Start-stop radio control with max. radius 500 mt indoors and 5 km outdoors (for QMC panel).


O.Q-QMC-SAS-01

Auto Start-Stop at load request (QMC panel)

O.Q-QPE-INT-CST-01

GE main switch STATUS contact wired to terminal board inside the QPE panel on board generator (10 / 40KVA) (no variant +10)


O.Q-QPE-RX8-QPE-C

Start-stop radio control with max. radius 500 mt indoors and 5 km outdoors (for QPE panel).


O.Q-QPE-SAS-02

Auto Start-Stop at load request (QPE, QLE panels)

O.Q-QPE-SEL-2P

2 position selector switch on board cubicle (indicate the function of the selector)

O.Q-QPE-SEL-3P

3 position selector switch on board cubicle (indicate the function of the selector)

Engine


O.G-MOT-FC-2

Dust collector filter - for Gen Sets 25/40 kVA


O.G-MOT-FSA-2

Fuel/Water Separator Filter - for Gen Sets 25/40 kVA


O.G-MOT-K-40C-01

Engine liquids suitable for -40°C ambient temperature for Gen Sets 10/40 kVA


O.G-MOT-PO-01

Oil change pump for Gen Sets 10/100 kVA


O.G-MOT-RF-01

Electronic speed governor for Gen Sets 10/40 kVA


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

Engine pre-heater 230V with thermostat on board for Gen Sets 10/100 kVA (BF/PRO/SS/RB)


O.G-MOT-SC-AC-EL-02

Super hot engine heater 230V with thermostat on board for Gen Sets 10/100 kVA


O.G-MOT-SE-PO-LR

Oil pressure level and engine temperature sensors (from 10 to 100kVA)


O.G-MOT-SRO-AU-12L

Automatic oil refilling system (10/40 kVA)

⚙ Handling


O.G-MOV-CN-3

Off-road trailer with 2 pneumatic wheels and tow bar (SS, RB Gen Sets 10/40 kVA)

O.G-MOV-CO-RS-02

Spare wheel with support for On road traiver O.G-MOV-CO-RS-02


O.G-MOV-CO-ST-02

Roadworthy trailer (Maximal capacity 1200Kg) 80km/h for genset from 10 to 40 kVA (registration excluded). For ge SS combine with code O.G-MOV-KRM-SS-01


O.G-MOV-GC-BIG-01

Increased central lifting hook with 10x5cm hole (10/250 kVA SS version)

O.G-MOV-KAC-01

Kit of plates for anchoring unit on trailer using belts. Available for gen sets from 10 to 100kVA only SS and RB version.

O.G-MOV-KRM-SS-01

Reinforcement kit for mobile installation (dedicated trailers or wheeled machinery) SS Version from 10 to 40 kVA

⚙ ATS Panels


QC1.0060A

Separate ATS panel, 4P - 60A contactors (40 kVA 400V - 20 kVA 230V) Dim. 60 x 25 x 80 cm - 47 kg. (ex QC1.040)


QLTS.060A

Wall-mounted ATS switching panel 60A 4P (40 kVA 400V - 20 kVA 230V) Dim. 38x20xh45cm 19 kg

⚙ Quadro bordo GE

O.Q-QBM-BMIN-230V-01

Additional price for 230V minimum voltage coil on the modular main switch inside the control panel (check feasibility)


O.Q-QBM-COM-4G-GPS

Module cellular modem 2G/3G/4G in combination with a GPS/GLONASS receiver per INTELILITE 4 AMF25, AMF8, IG200, IG500 G2 and IG1000

O.Q-QBM-COM-BIO8

BIO8 expansion module for Comap INTELILITE4 AMF25, AMF8, IG200, IG500 G2 and InteliGen4 200 controllers complete with user terminal block and / or relay for relaying outputs - if used (check installation feasibility in the switchboard).

⚙ Exhaust


O.G-SCA-CAT-03

Catalytic converter (25/60 kVA)

	O.G-SCA-FAP-K40	Particulate filter (DPF) for Gen Sets 25/40 kVA
	O.G-SCA-GF-50	Exhaust bellow with flexible joint including flange and counter flange (10/40 kVA)
	O.G-SCA-KS-50	Exhaust flex pipe for drainage (length 3 mt.)
	O.G-SCA-PF-01	Spark arrestor for Gen Sets 10/40 kVA
	O.G-SCA-PR-02	Exhaust pipe protection kit (25/40 kVA), SS,RB version
Test		
	MS.CP-LT-01	FAT - Factory Acceptance Test for single Gen Set from 10 to 100 kVA according to our standard procedures in Elcos factory (max 2 hours - max 4 people - max 1 hour of operation)
	MS.CP-SP-01	FAT - Factory Acceptance Test for single custom Gen Set from 10 to 100 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-01	FAT - Factory Acceptance Test for single Gen Set from 10 to 100 kVA according to our standard procedures in Elcos factory (max 4 hours - max 4 people - max 2 hour of operation)
	MS.RF-ST-01	Noise test report for single Gen Set from 10 to 250 kVA
	MS.TV-ST-01	Vibration test on 10 points with certificate for single Gen Set from 10 to 250 kVA
Vari		
	O.G-VAR-CAT-01	Toolbox for ordinary maintenance.
	O.G-VAR-PUN-TER-01	Round earth spike, diam. 20 mm, height 1.5mt, galvanized, complete with clamp and 3m yellow/green cable model FS17 1x35mm ² with cable lugs.
	O.G-VAR-PUN-TER-02	Cross-shaped earth spike, height 1.5mt, galvanized, complete with clamp and 3m yellow/green cable model FS17 1x35mm ² with cable lugs.
	O.G-VAR-TPD-01	IP 55 document holder

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

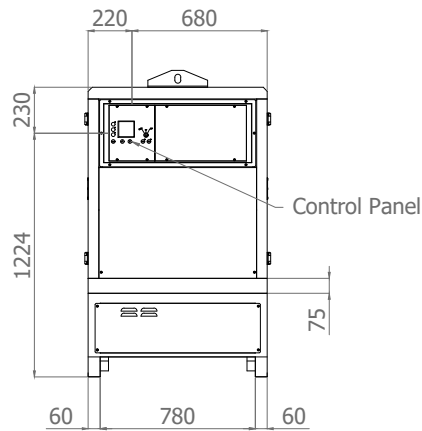
LTP

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.

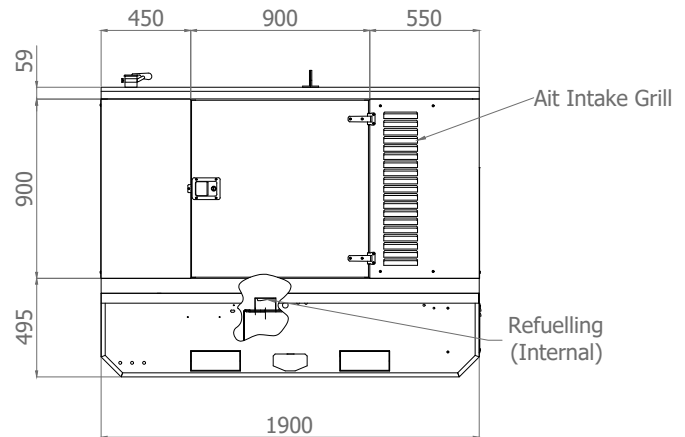
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OVERALL DIMENSIONS [mm]

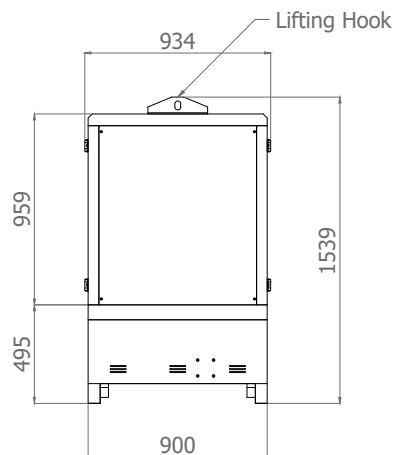
REAR VIEW



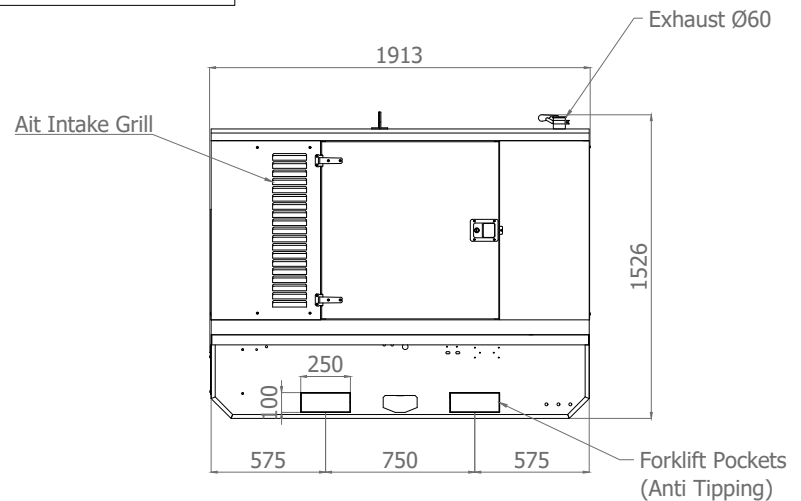
LEFT SIDE VIEW



FRONT VIEW



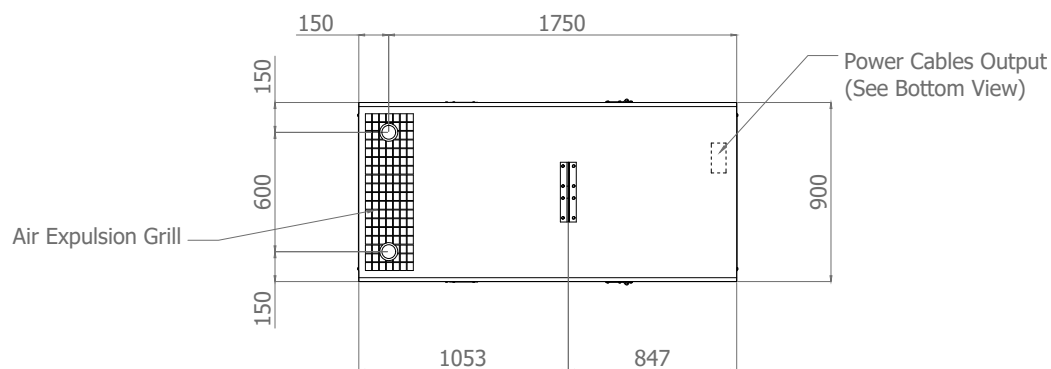
RIGHT SIDE VIEW



TOP VIEW

Right

Front



Rear

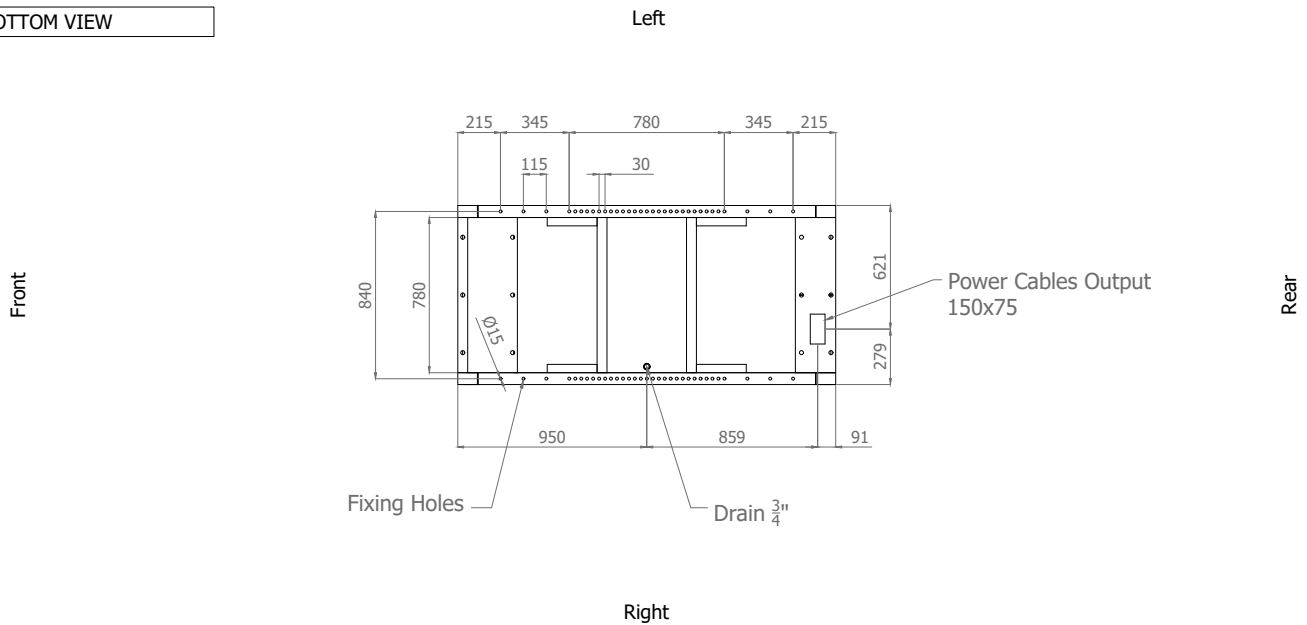
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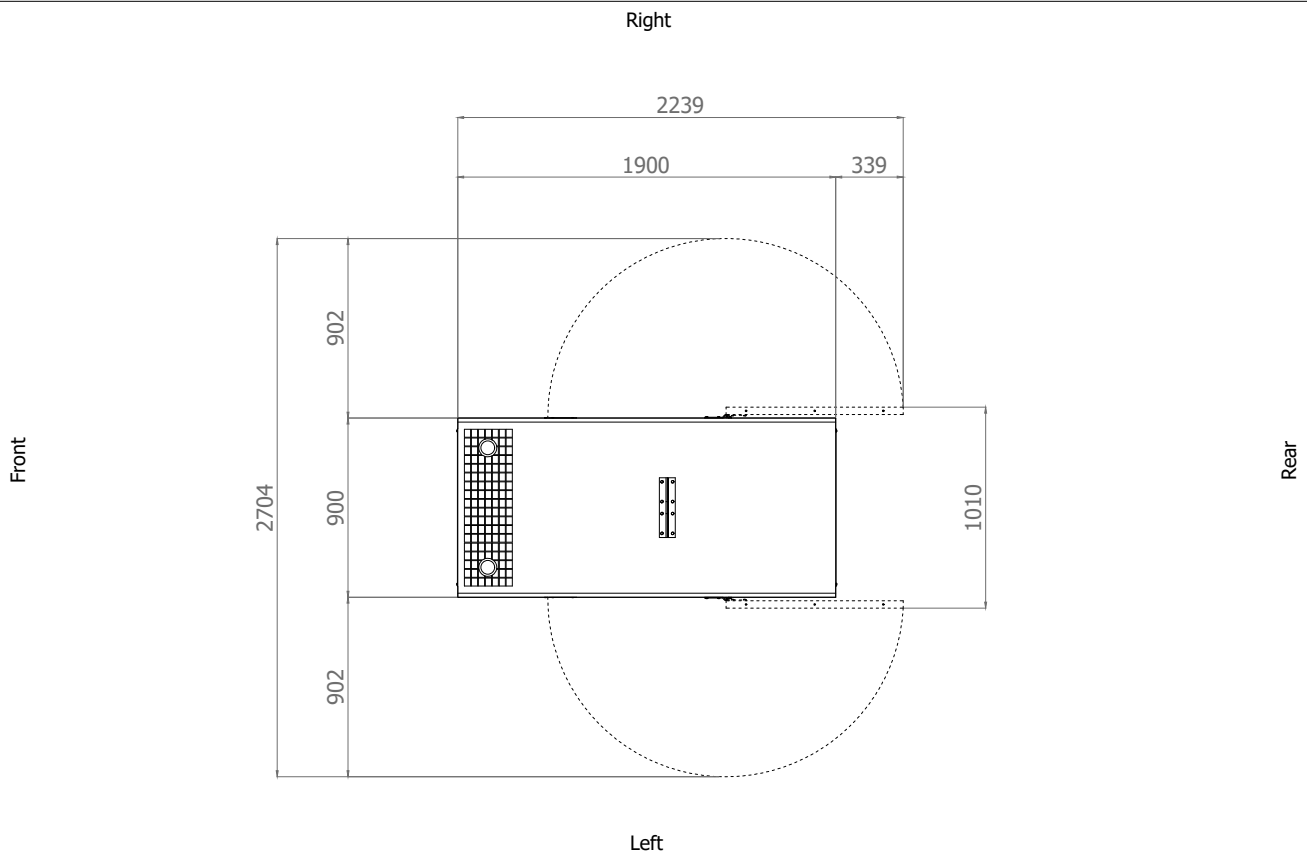
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BOTTOM VIEW



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: 0.35 m²

Expulsion: 0.25 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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