

Standard protection against water splashes and objects on construction sites

Standard Equipment

⚙️ Canopy Soundproofing

- Soundproof panel made of epoxy-painted sheet metal
- Sound insulation using Class 1 polyester materials
- Large doors providing easy access for maintenance operations
- Protection for exhaust lines
- Exhaust rain cap

⚙️ Fuel Supply

- Automatic shutdown system for low fuel level
- Fuel level indicator

⚙️ Handling

- 4 lifting rings
- Forklift slots for fork passage
- Reinforced chassis and supports for trailer transport

⚙️ Base Frame

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

⚙️ Engine

- Automatic shutdown on coolant temperature alert and oil pressure alert
- External oil drain points
- Engine liquids (oil and antifreeze)
- Tropicalized radiator
- Rotating parts protection

⚙️ Documentation

- CE conformity declaration, User and Maintenance manual

⚙️ Alternator

- AVR Automatic Voltage Regulator
- Impregnation for marine environment IP23

⚙️ Protection and Electrical Panel

- Thermal-magnetic protection + 30 mA differential circuit breaker protection
- Emergency Stop button
- Power outlet panel
- Grounding point
- IP44 wiring
- Start-up battery (pre-charged)

⚙️ Standards

- All WORMS Generating sets are compliant to CE Marking
- 2014/30/UE Electromagnetic compatibility
- 2000/14/CE et 2005/88/EC : Noise Emission for outdoor use

⚙️ Options

- Connection terminal block
- Remote radio control
- Timer (scheduled starts and stops)
- Trailer
- USB charger
- 3-way valve
- Audible and visual alarm
- Wall-mounted ATS box for automatic emergency start
- Mobile + (rubber protective stops; lashing rings and slots for forklift passage)

Primary Data

General Information

Speed	RPM	1500
Frequency	Hz	50
PRP	kVA	20
PRP - Prime power (cos φ = 0.8)	kW	16
LTP - Standby power	kVA	22
LTP - Standby power (cos φ = 0.8)	kW	17.5
Standard Voltage	V	400 / 230
Current (cos φ = 0.8)	A	28.8
Voltage for current calculation	V	400
cos φ		0.8

General Electrical Protection

Circuit-breaker rated current	A	32
Type		Thermal-magnetic circuit breaker on the panel
Circuit-breaker poles	N	4P

LWA

LWA	dB(A)	88
-----	-------	----

Noise Level (+/- 3dB(A))

Sound pressure level @ 7 m	dB(A)	63
Sound pressure level @ 1 m	dB(A)	72

Fuel Consumption

Type		Diesel
Standard Fuel Tank capacity	L	105
Autonomy @ 75% load	h	31
Fuel consumption at 100% load	L / h	4.3
Fuel consumption at 75% load	L / h	3.4
Fuel consumption at 50% load	L / h	2.6

General Data

Rated capacity	Ah	1x80
Auxiliary Voltage	V	12
Exhaust diameter	mm	62

Weight and Dimensions

Dimensions (L x w x h)	cm	173 x 93 x131
Weight with liquids (excluding optionals and fuel)	kg (± 3 %)	730

PRP

Net prime power 100%, permissible average load equal to or below < 80 % no time limitation, plus 10 % overload permissible for 1 running hour each 12 h.

LTP (Limited Time Running Power)

ISO-8528-1 states that a LTP-rated generator set must provide power for up to 500 hours per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers.

Engine

Factory		YANMAR
Model		4TNV88F
Emissions stage		Stage 5
Speed governor		Mechanic
Radiator	° C	50
Cooling	Type	liquid (water + 50% Parafllu11)
Active net power	kW	18
Nominal net power	HP	24.5
Injection	Type	Direct
Aspiration	Type	Natural
Numbers of cylinders	N	4
Cylinders arrangement		L
Bore	mm	88
Stroke	mm	90
Total displacement	L	2.188
Engine oil features		15W40-API CI-4/CH-4 ACEA E5-E7
Total oil capacity	L	7.4
Total coolant capacity	L	7.5

Cycle

Cycle	Type	4 strokes
-------	------	-----------

Alternator

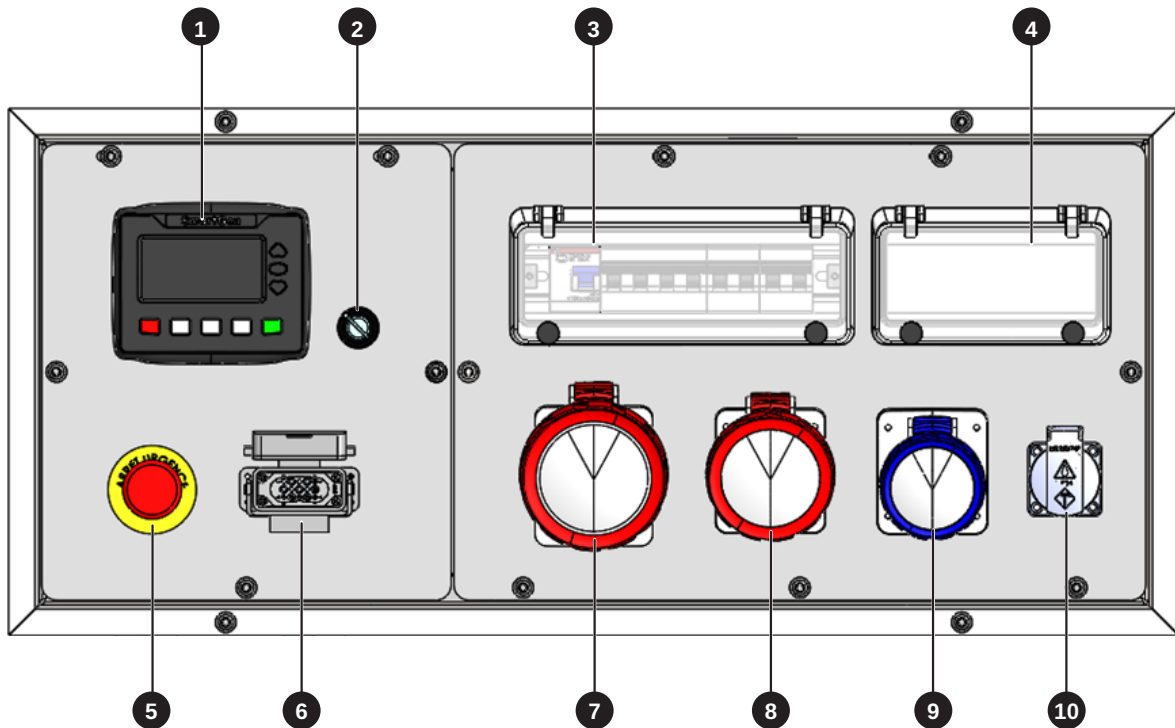
May vary based on stock availability. However, a primary brand will be used.

Factory		LINZ / SINCRO / MECCALTE
Model		According to the brand of the alternator
Regulation Type		AVR
Voltage Regulator (voltage accuracy)	± %	1
Poles	N°	4
Phases		3+N
Standard windings connection		H (Outdoor Temp. 40°C)
Engine coupling		Elastic disk
Short circuit current		>= 300% (3In)
Protection degree	IP	23
Cooling system		Self ventilating
Waveform distortion	%	< 5

Standard operating environmental conditions

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

Control panel



- 1 Control Module - HGM4010N
- 2 Key Switch
- 3 Differential Circuit Breaker and Magneto-Thermal Circuit Breakers
- 4 Slot for Option
- 5 Emergency Stop Button
- 6 Multi-Pin Connector
- 7 Three-Phase Socket 400V / 4P+N+T / 32A
- 8 Three-Phase Socket 400V / 4P+N+T / 16A
- 9 Single-Phase Socket 230V / 2P+T / 16A CEE
- 10 Single-Phase Socket 230V / 10/16A / SCHUKO

Protection degree: IP 55

Control Module - HGM4010N



ENGINE MEASURES

- Fuel tank level %
- Total run time
- Partial run time (Resetting possible)
- Battery voltage
- 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
- Power factor (cosφ)

COMMUNICATION PORTS

- USB port for parameters saving and firmware update

EQUIPMENT

- Microprocessor Logic
- Backlit screen
- Programmable from display

CONTROL MODULE FUNCTIONS

- Automatic start and stop when the Mains Fails
- Automatic start and stop via the contact
- Start and stop with ON/OFF key switch
- Manual Start and stop with key
- Emergency stop button on panel board
- Remote emergency stop
- Remote lock
- Remote test without load
- Remote test on load
- Scheduled start-ups

PRE-ALARMS / ALARMES

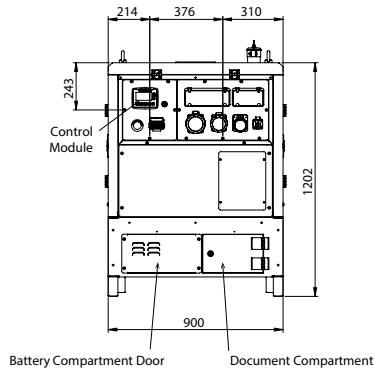
- General alarm
- Fuel reserve
- No fuel (alarm)
- Dynamo battery charger alarm
- Low oil pressure
- Low oil pressure (alarm)
- Oil sensor failure
- High coolant temperature
- Minimum battery voltage
- Maximum battery voltage
- Start-up failure
- Shutdown failure
- CAN-BUS failure
- No CAN communication
- Generator overload on phases L1, L2, L3
- Generator short circuit
- Generator overvoltage
- Generator undervoltage
- High generator frequency
- Low generator frequency
- Engine overspeed
- Reverse power
- Password lock
- Emergency stop button
- Forced shutdown
- Incorrect generator phase sequence
- Phase inversion

VISUALIZATIONS ON CONTROL MODULE/DISPLAY

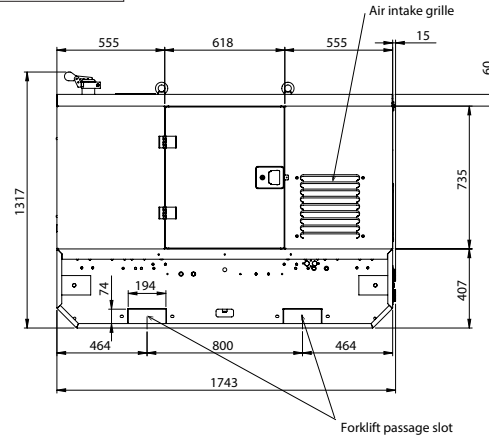
- Pre-alarms
- Alarms
- Engine measurements
- Alternator measurements
- Measurements
- Date and time
- Operating mode
- Generator status

OVERALL DIMENSIONS (mm)

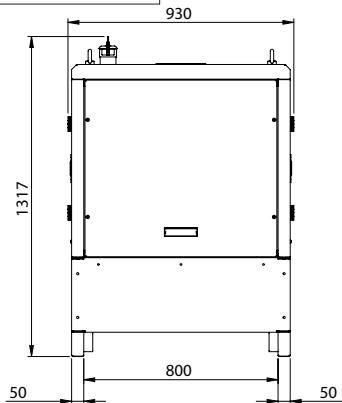
REAR VIEW



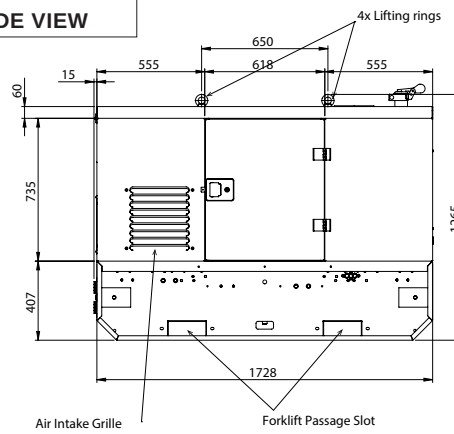
LEFT SIDE VIEW



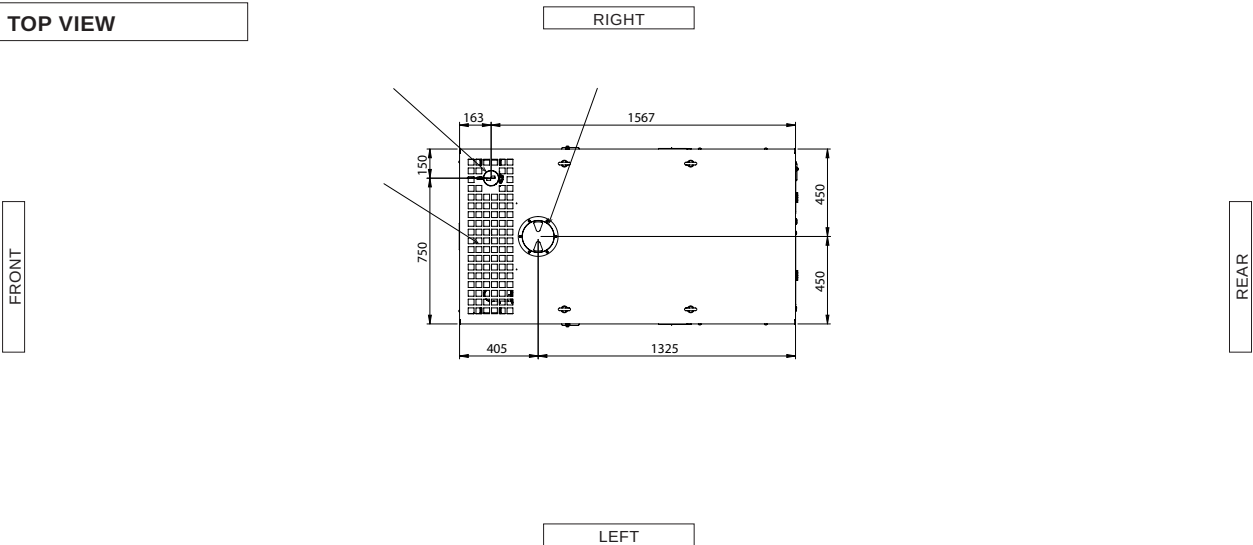
FRONT VIEW



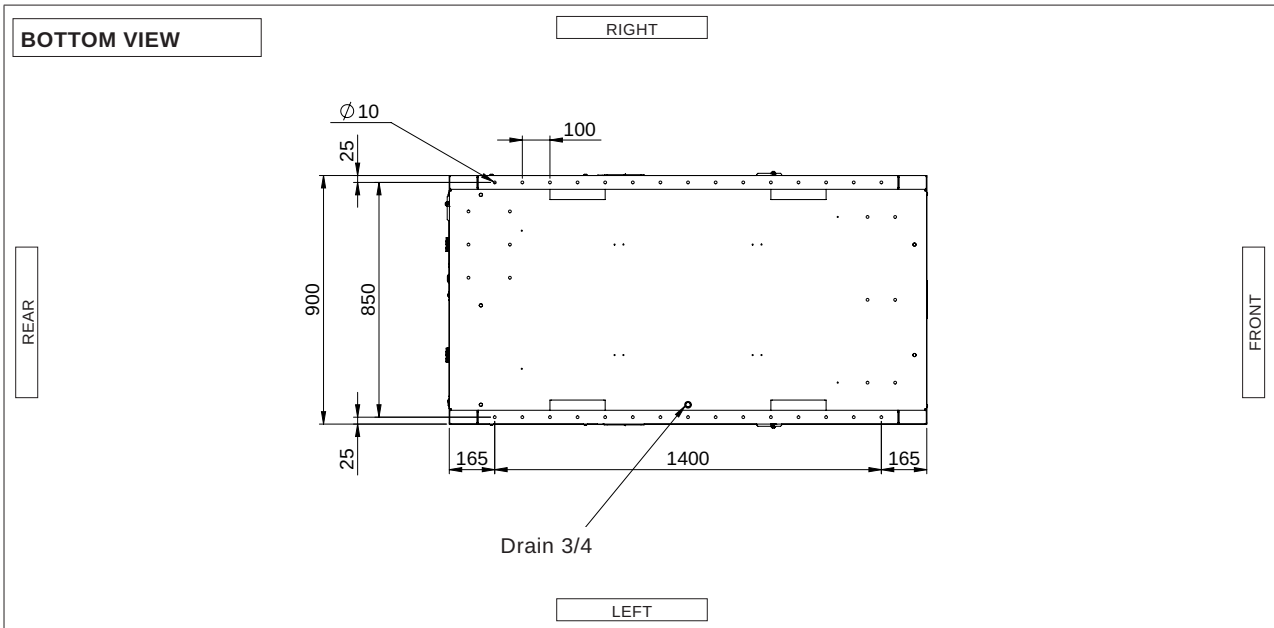
RIGHT SIDE VIEW



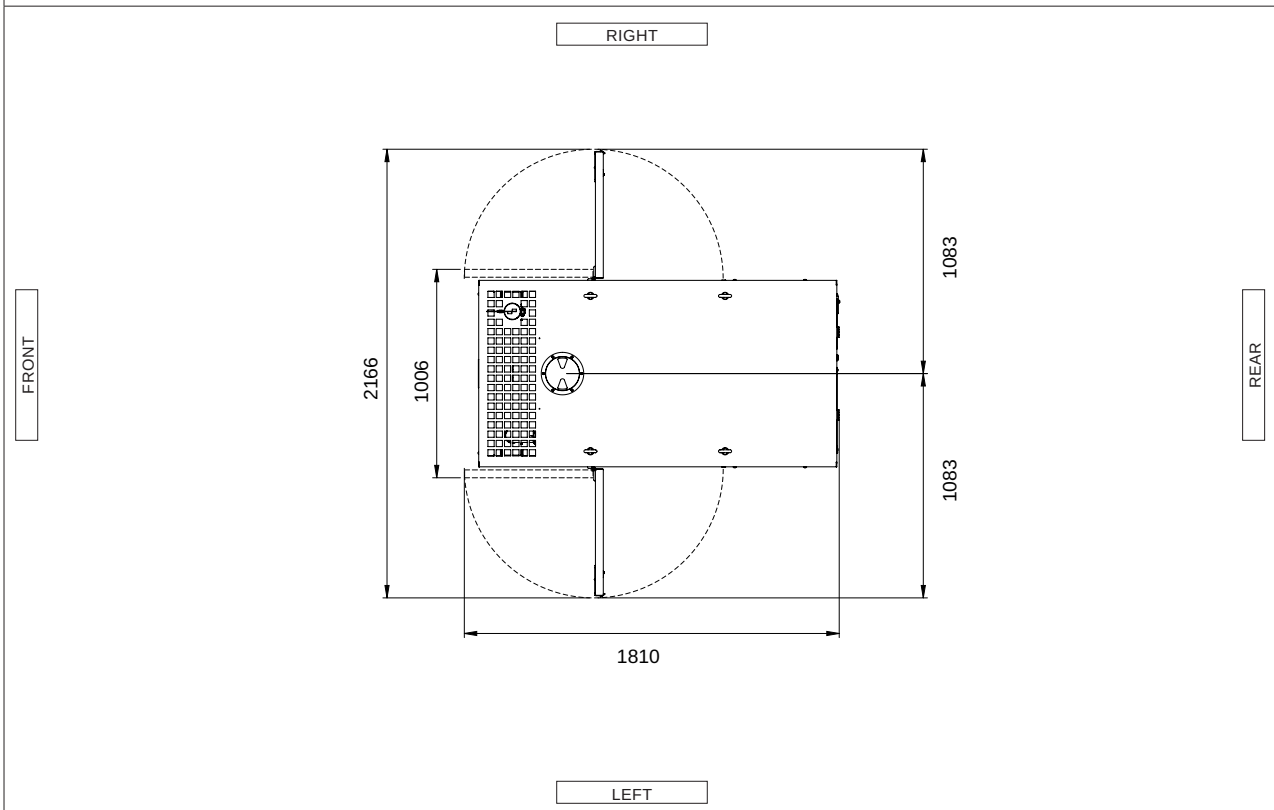
TOP VIEW



- 1) Forms and dimensions refer to the generating set on catalog
- 2) Forms and dimensions are subject to change in order to update or improve the products.



DIMENSIONS WITH OPEN DOORS (mm)



VENTILATION OF THE ROOM

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

- Aspiration: 0.26 m²
- Expulsion: 0.21 m²

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

- 1) Forms and dimensions refer to the generating set on catalogue.
- 2) Forms and dimensions are subject to be changed in order to updating or improving the products.