

# SILENTSTAR 15 T YN

**15 kVA**  
**STAGE 5**



## 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

### ⚙️ Fuel Supply

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

### ⚙️ Handling

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  
 Engine liquids (oil and antifreeze)  
 Tropicalized radiator  
 Rotating parts protection

### ⚙️ Alternator

AVR Automatic Voltage Regulator  
 Impregnation for marine environment  
 IP23

### ⚙️ Panel & connection

Emergency Stop button  
 Protection by controller  
 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	15
PRP - Prime power ( $\cos \varphi = 0.8$ )	kW	12
LTP - Standby power	kVA	17
LTP - Standby power ( $\cos \varphi = 0.8$ )	kW	13.6
Standard Voltage	V	400 / 230
Current ( $\cos \varphi = 0.8$ )	A	21.68
Voltage for current calculation	V	400
$\cos \varphi$		0.8

### General Electrical Protection

Circuit-breaker rated current	A	20
Type		—
Circuit-breaker poles	N	4P

### LWA

LwA	dB(A)	83
-----	-------	----

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

Sound pressure level @ 7 m	dB(A)	58
Sound pressure level @ 1 mt	dB(A)	67

### Fuel Consumption

Type		Diesel
Standard Fuel Tank capacity	L	110
Autonomy @ 75% load	h	43
Fuel consumption at 100% load	L / h	3.4
Fuel consumption at 75% load	L / h	2.6
Fuel consumption at 50% load	L / h	1.7

### General Data

Rated capacity	Ah	1x70
Auxiliary Voltage	V	12
Exhaust gas temperature	°C	425
Exhaust diameter	mm	50

### Weight and Dimensions

Dimensions (L x w x h)	cm	175 x 90 x 140
Weight with liquids (excluding optionals and fuel)	kg ( $\pm 3 \%$ )	645

#### 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		3TNV88F
Emissions stage		Stage 5
Speed governor		Mechanic
Radiator	° C	50
Cooling	Type	Liquid
Active net power	kW	13.2
Nominal net power	ch	17.9
Injection	Type	Direct
Aspiration	Type	Natural
Numbers of cylinders	N	3
Cylinders arrangement		
Bore	mm	88
Stroke	mm	90
Total displacement	L	1.641
Engine oil features		15W40-API CI-4/CH-4 ACEA E5-E7
Total oil capacity	L	6.7
Total coolant capacity	L	7.2

## Cycle

Cycle	Type	4 Strock
-------	------	----------

## Alternator

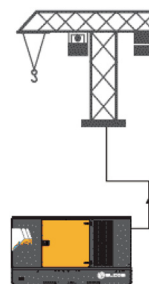
May vary based on stock availability. However, a primary brand will be used.

Factory		STAMFORD
Model		SOL1-P1
Single-phase Range	kVA	15
Voltage Regulator (voltage accuracy)	± %	1
Poles	N°	4
Phases		3+N
Standard windings connection		Star Series
Stator/rotor impregnation		H (Outdoor Temp 40°C)
Efficiency	%	83.2
Engine coupling		Elastic disk
Short circuit current		>= 300% (3In)
Protection degree	IP	23
Cooling system		Self ventilating
Maxium overspeed	tr/min	2250
Waveform distortion	%	< 5
Exciter		Diode bridge

## Standard operating environmental conditions

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

## Control Systems on Board QMC (+12)



### QMC Manual panel with sockets module

The manual control panel type QMC provides a reliable and simple solution for the control of the generating set. Thanks to the SM1 control module, the QMC control panel can allow the manual start and stop of the gen set and it can monitor the different parameters during its operation. The SM1 module allows you to connect some optional devices for a complete remote management of the gen set.

#### Mechanical features

Protection degree

IP

55

#### Sockets module

10-15 kVA	n°1 CE 2P+T -16A 230V / n°1 CE 2P+T -16A 230V / n°1 CE 3P+N+T 16A 400V
20 kVA	n°1 CE 2P+T -16A 230V / n°1 CE 2P+T -16A 230V / n°1 CE 3P+N+T 32A 400V
30-100 kVA	n°1 CE 2P+T -16A 230V / n°1 CE 2P+T -16A 230V / n°1 CE 3P+N+T 32A 400V / n°1 CE 3P+N+T 63A 400V

#### Control Module QMC (+12)



Model	<b>SM1</b>
Operational mode	<b>MANUEL</b>

### Specifics

#### Applications

Stand-alone  
Construction site/Rental  
Self-production

#### ENGINE MEASURES

Fuel tank level %  
Total run time  
Battery voltage

#### ALTERNATOR MEASURES

Generator Voltage L1, L2  
Generator frequency  
Generator current L1  
Generator Apparent Power kVA

#### EQUIPMENT

Voltmeter  
Frequency meter  
Ammeter  
KW meter  
Battery Voltage  
Hour counter  
Fuel level  
Starting key removable Remote control connector

#### PRE-ALARMS/ ALARMS

Common Alarm  
Fuel reserve (pre-alarm)  
Charge alternator failed (dinamo)  
Low oil pressure (alarm)  
High coolant temperature (alarm)

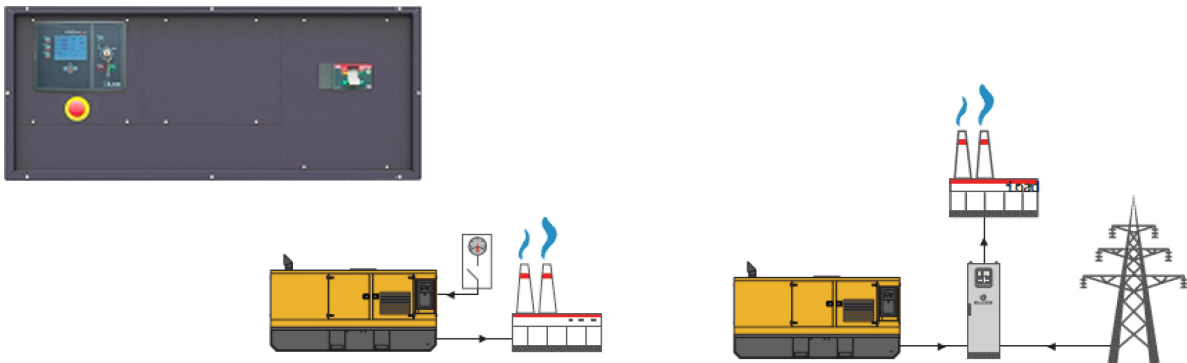
#### VISUALIZATIONS ON CONTROL MODULE/DISPLAY

Glow plugs status

#### CONTROL MODULE FUNCTIONS

Manual Start and Stop by key  
Emergency stop button on panel board

# Control Systems on board QPE (+11)



## QPE Automatic panel without switching on board

The QPE-C control panel represents the evolution of the panel for the control and managment of the gen set.With its microprocessor logic it is able to meet any user requested features. The dual operation mode manual and automatic guarantees to every type of functionality protection, analysis and control of the generating set in order to make the managment easy and efficient.Variant without transfer switch on board.ATS panel type QC as optional. The panel manages the QC panels directly or any other ATS panel.

### Mechanical features

Protection degree	IP	55
-------------------	----	----

### Battery charger

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

# Control Systems on board QPE+ATS version (+10)

## QPE+ATS Automatic panel without switching on board

The QPE-C control panel represents the evolution of the panel for the control and managment of the gen set.With its microprocessor logic it is able to meet any user requested features. The dual operation mode manual and automatic guarantees to every type of functionality protection, analysis and control of the generating set in order to make the managment easy and efficient.Variant without transfer switch on board.ATS panel type QC as optional. The panel manages the QC panels directly or any other ATS panel. This group is equipped with a 4-pole source changeover with electrical and mechanical interlocking.



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

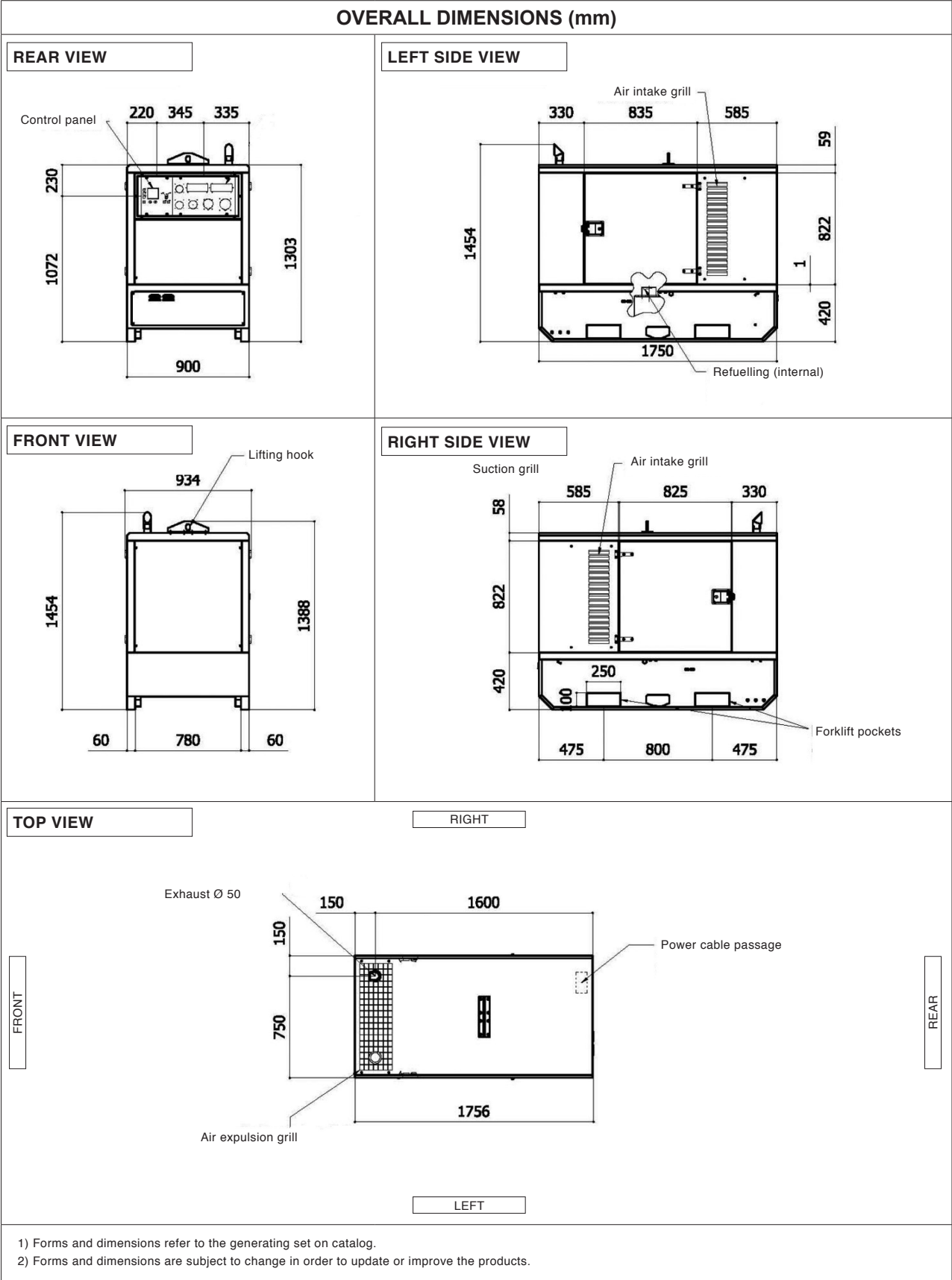
- Common Alarm
- Fuel reserve (pre-alarm)
- Low fuel level (alarm)
- Charge alternator failed (dinamo)
- Low oil pressure (alarm)
- Oil sensor failed (alarm)
- High coolant temperature (alarm)
- Low water level (1)
- Water in fuel (1)
- Battery undervoltage
- Battery overvoltage
- GS failure to start
- 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

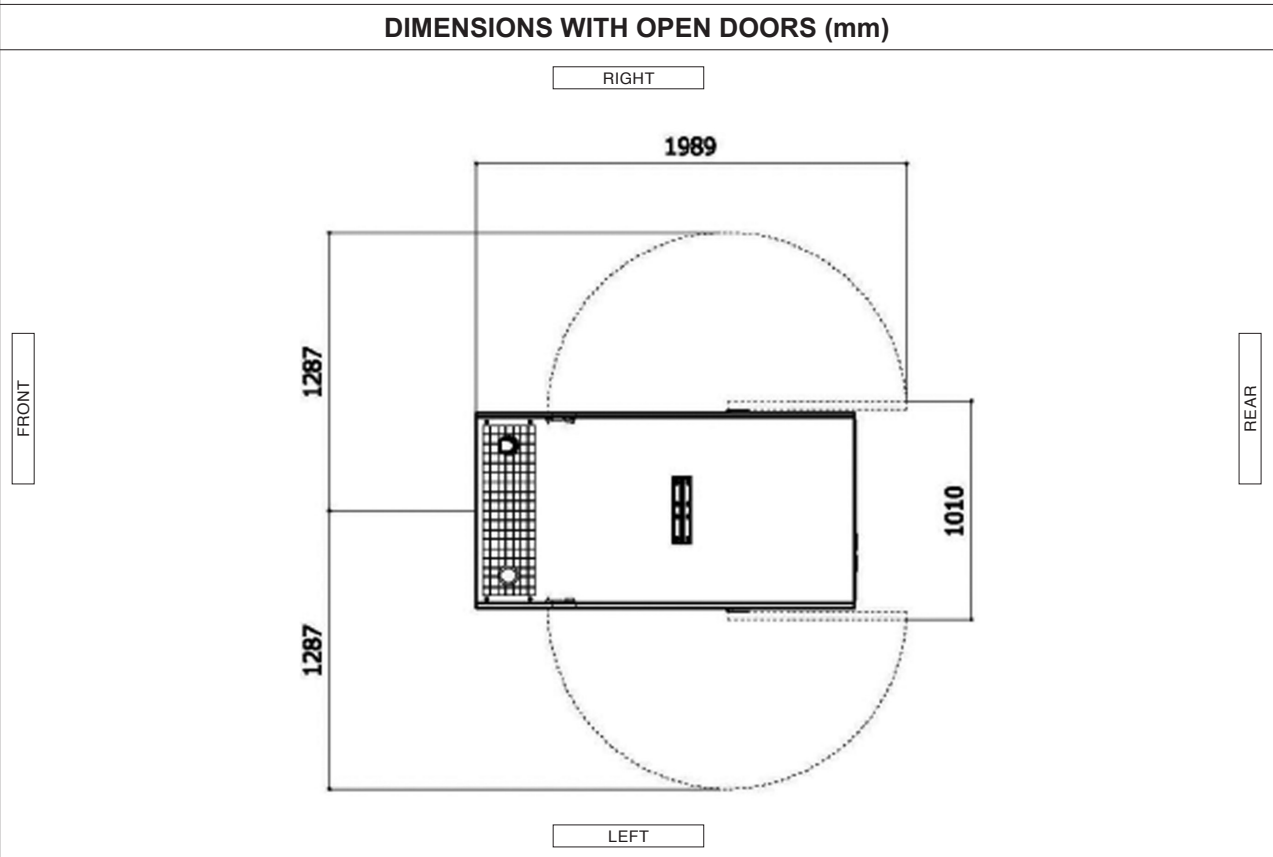
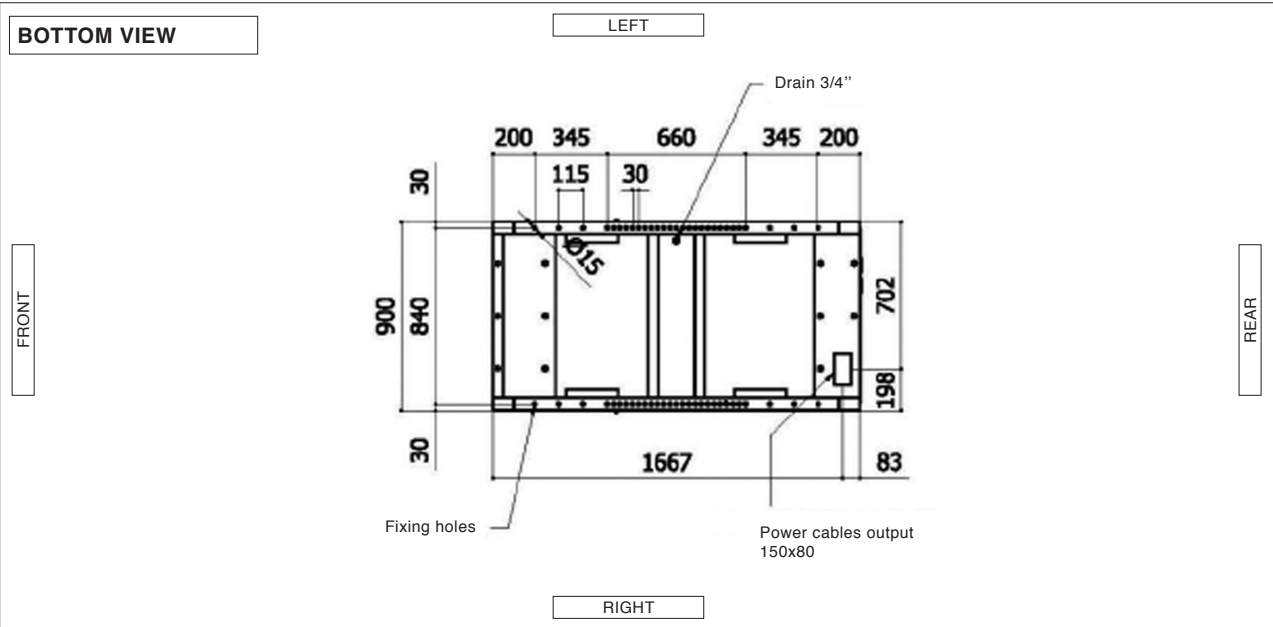
VISUALIZATIONS ON CONTROL MODULE/DISPLAY

- 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)





**VENTILATION OF THE ROOM**

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

- Aspiration: 0.26 m<sup>2</sup>
- Expulsion: 0.21 m<sup>2</sup>

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.