



Image for demonstration purposes

  
**Generating Set**  
**Silent Pro - Diesel**

**GE.PK.022/020.SP+011**

1500 rpm - Trifase - 50Hz - 400V  
 Automatic 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.2 lifting hooks integrated into the bearing structure  
 Base frame with anti-overturning forklift pockets  
 Loadable side by side for truck transportation

### **Base Frame**

Anti-vibrating mounting pads  
 Anti pollution Bunded base

### **Engine**

Tropicalized radiator

### **Alternator**

AVR Automatic Voltage Regulator  
 Impregnation for marine environment  
 IP23

### **Panel & connection**

Emergency Stop button  
 Tamperproof panel IP55  
 Cable output from side  
 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

### **COMAP optional - AMF25 and INTELIGEN 200**

CM-RS232-485 Plug-in module (RS232-485 communication port)  
 (2)

## Primary data

### General Information

|                                 |            |                |
|---------------------------------|------------|----------------|
| Speed                           | <i>RPM</i> | <b>1500</b>    |
| Frequency                       | <i>Hz</i>  | <b>50</b>      |
| PRP - Prime power               | <i>KVA</i> | <b>20</b>      |
| LTP - Standby power             | <i>KVA</i> | <b>22</b>      |
| PRP - Prime power               | <i>KW</i>  | <b>16,0</b>    |
| LTP - Standby power             | <i>KW</i>  | <b>17,6</b>    |
| Standard Voltage                | <i>V</i>   | <b>400/230</b> |
| Current                         | <i>A</i>   | <b>28,9</b>    |
| Voltage for current calculation | <i>V</i>   | <b>400</b>     |
| COSFI                           | <i>0,8</i> | <b>0,8</b>     |

### General electrical protection

|                |                                             |           |
|----------------|---------------------------------------------|-----------|
| Rated current  | <i>A</i>                                    | <b>32</b> |
| Type           | <b>Magnetothermal switch on panel board</b> |           |
| Poles          | <i>N</i>                                    | <b>3P</b> |
| Optional/notes | <b>Opening coil</b>                         |           |

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

|                             |              |           |
|-----------------------------|--------------|-----------|
| LWA                         | <i>dB(A)</i> | <b>87</b> |
| Sound pressure level @ 7 mt | <i>dB(A)</i> | <b>62</b> |
| Sound pressure level @ 1 mt | <i>dB(A)</i> | <b>71</b> |

### Fuel Consumption

|                               |               |            |
|-------------------------------|---------------|------------|
| TYPE                          | <b>Diesel</b> |            |
| Standard Fuel Tank capacity   | <i>lt</i>     | <b>32</b>  |
| Autonomy @ 75% load           | <i>h</i>      | <b>8</b>   |
| Fuel consumption at 100% load | <i>lt/h</i>   | <b>5,3</b> |
| Fuel consumption at 75% load  | <i>lt/h</i>   | <b>4</b>   |
| Fuel consumption at 50% load  | <i>lt/h</i>   | <b>2,9</b> |

### General data

|                   |           |             |
|-------------------|-----------|-------------|
| Rated capacity    | <i>Ah</i> | <b>1x70</b> |
| Auxiliary Voltage | <i>V</i>  | <b>12</b>   |
| Exhaust diameter  | <i>mm</i> | <b>50</b>   |

### Weight and Dimensions

|                                                    |                   |                   |
|----------------------------------------------------|-------------------|-------------------|
| Dimensions (L x W x H)                             | <i>cm</i>         | <b>175x85x104</b> |
| Weight with liquids (excluding optionals and fuel) | <i>Kg (+/-3%)</i> | <b>711</b>        |

## Engine

|                        |      |                                |
|------------------------|------|--------------------------------|
| Factory                |      | Perkins                        |
| Model                  |      | 404A-22G1                      |
| Emissions stage        |      | Stage 0                        |
| Speed governor         |      | Mechanic                       |
| Radiator               | °C   | 50                             |
| Cooling                | Tipo | liquid (water + 50% Paraflu11) |
| Active net power       | Kwm  | 18,4                           |
| Nominal net power      | CV   | 25                             |
| Cycle                  | Tipo | 4 strokes                      |
| Injection              | Tipo | Indirect                       |
| Aspiration             | Tipo | Natural                        |
| Numbers of cylinders   | N    | 4                              |
| Cylinders arrangement  |      | L                              |
| Bore                   | mm   | 84                             |
| Stroke                 | mm   | 100                            |
| Total displacement     | lt   | 2,216                          |
| Engine oil features    |      | 15W40-API CI-4/CH-4 ACEA E5-E7 |
| Total oil capacity     | lt   | 10,6                           |
| Total coolant capacity | lt   | 7                              |

## Alternator

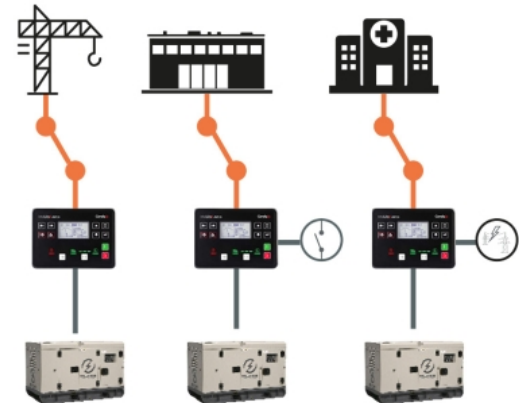
\* May vary based on stock availability. However, a primary brand will be used.

|                                      |       |                       |
|--------------------------------------|-------|-----------------------|
| Factory                              |       | MeccAlte              |
| Model                                |       | ECP28 M 4             |
| PRP continuous power                 | KVA   | 20                    |
| 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                           | %     | 87                    |
| Engine coupling                      |       | Elastic disk          |
| Short circuit current                |       | >= 300% (3In)         |
| Protection degree                    | IP    | 23                    |
| Cooling system                       |       | Self ventilating      |
| Maxium overspeed                     | rpm   | 2250                  |
| Waveform distortion                  | %     | <3,5                  |
| Exciter                              |       | Ponte a diodi - MAUX  |

## Environmental conditions

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

## Control Systems on board QBM-SP-AMF25-00



Operating scheme - Schema di funzionamento

### QBM Automatic panel without switching on board

#### Mechanical features

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

#### 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       |

#### Remotable functions in terminal box

|                                         |                                                   |
|-----------------------------------------|---------------------------------------------------|
| GS start                                | GS lock                                           |
| Genset contactor close/open command (1) | Mains contactor close/open command (2)            |
| Common Alarm - Volt free output         | Management of the automatic fuel refilling system |
| Genset running                          |                                                   |

## Control Module



### 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  
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)

#### ALTERNATOR MEASURES

Generator Voltage L1, L2, L3  
Generator Voltage L1-N, L2-N, L3-N  
Generator frequency  
Generator current L1  
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  
Configurable via PC using USB port

#### EQUIPMENT

Microprocessor Logic  
Back-lit display  
Programmable by PC software  
250 event log  
Multiple display languages  
STOP button  
START button  
AUT mode button  
MAN mode button  
OFF mode button  
Reset alarm button  
Alarm mute button  
Transfer to Mains button  
Transfer to generator 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  
Maintenance request  
Emergency button pressed  
Remote emergency active  
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

#### CONTROL MODULE FUNCTIONS

Automatic start and stop when the Mains Fails (7)  
Manual Start and stop  
Emergency stop button on panel board  
Remote emergency stop  
Remote lock  
Scheduled start-ups  
MODBUS commands (Start, Stop, Reset, Test)  
Scada available with PC connected to the controller  
PLC editor  
Manual switching commands

#### CONTROL MODULE SPECIAL FUNCTIONS (on demand)

Dummy load (4)  
Load shedding (4)  
Idle mode  
Master / Slave mode

|                |           |
|----------------|-----------|
| Model          | AMF25     |
| Operating mode | AMF - MRS |

## 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

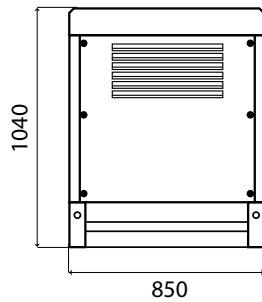
## LTP

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.

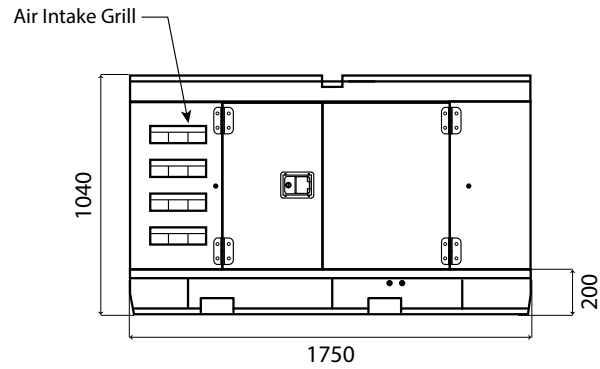
|        |           |            |               |      |       |          |      |    |              |            |          |
|--------|-----------|------------|---------------|------|-------|----------|------|----|--------------|------------|----------|
| Sheet: | SP-PKM-20 | SILENT PRO | Exhaust side: | Left | Type: | STANDARD | Rev: | 00 | Last Update: | 28-01-2025 | Page 1/1 |
|--------|-----------|------------|---------------|------|-------|----------|------|----|--------------|------------|----------|

## OVERALL DIMENSIONS [mm]

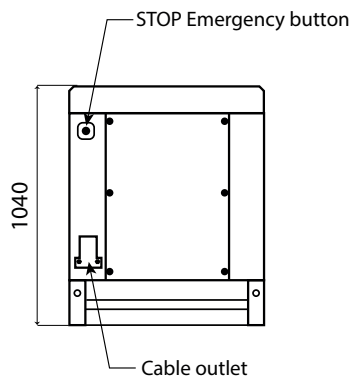
REAR VIEW



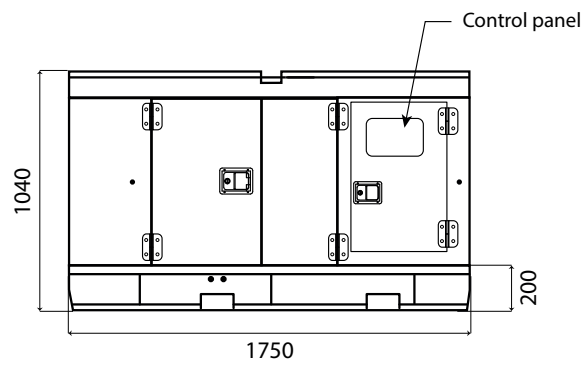
LEFT SIDE VIEW



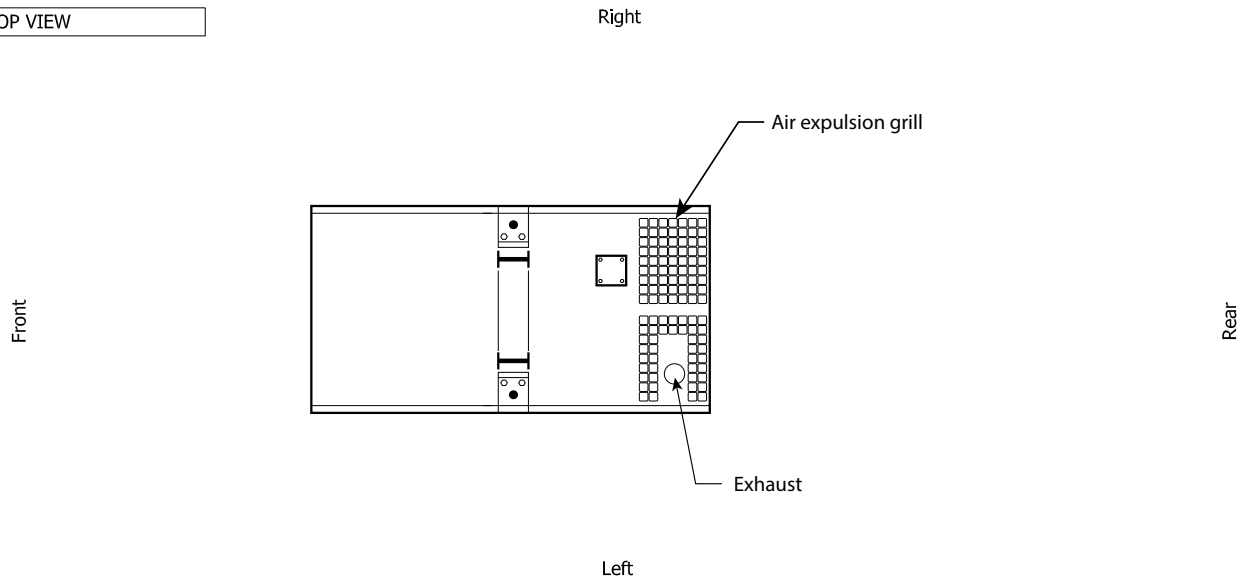
FRONT VIEW



RIGHT SIDE VIEW



TOP VIEW



### 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