

GSW220P



Main Features

Frequency	Hz	50
Voltage	V	230
Power factor	cos ϕ	0.8
Phase and connection		3

Power Rating

Standby power LTP	kVA	220.00
Standby power LTP	kW	176.00
Prime power PRP	kVA	201.51
Prime power PRP	kW	161.21

Ratings definition (According to standard ISO8528 1:2005)

PRP - Prime Power:

It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

LTP - Limited-Time running Power:

It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 h of operation per year (whose no more than 300 for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Engine specifications

Engine manufacturer	Perkins	
Model	1106A-70TAG4	
Version	PR82216	
[50Hz] Exhaust emission level	Non Emission Certified	
Engine cooling system	Water	
Nr. of cylinder and disposition	6 in line	
Displacement	cm ³	7000
Aspiration	Turbocharged	
Speed governor	Electronical	
Prime gross power PRP	kW	178.9
Maximum gross power LTP	kW	196.3
Oil capacity	l	14.9
Lube oil consumption @ PRP (max)	%	0.1
Coolant capacity	l	21
Fuel	Diesel	
Specific fuel consumption @ 75% PRP	g/kWh	215
Specific fuel consumption @ PRP	g/kWh	213
Starting system	Electric	
Starting engine capability	kW	4.2
Electric circuit	V	12



Engine equipment

Standards

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/5.

Lube oil system

Flat-bottomed isolated aluminium sump

Filter

- Fuel filter
- Air filter
- Oil filter

Cooling system

- Radiator (incorporating air-to-air charge cooler + fuel cooler)
- Water pump

Alternator Specifications

Brand	Mecc Alte	
Model	ECO38-2SN/4	
Voltage	V	230
Frequency	Hz	50
Power factor	cos ϕ	0.8
Type	Brushless	
Poles	4	
Voltage regulation system	Electronic	
Standard AVR	DSR	
Voltage tolerance	%	1.5
Efficiency @ 75% load	%	92.9
Class	H	
IP protection	21	

Mechanical structure

Robust mechanical structure which permits easy access to the connections and components during routine maintenance check-ups.

Voltage regulator

Voltage regulation with DSR. The digital DSR controls the range of voltage, avoiding any possible trouble that can be made by unskilled personnel. The voltage accuracy is $\pm 1\%$ in static condition with any power factor and with speed variation between 5% and +30% with reference to the rated speed.

Windings / Excitation system

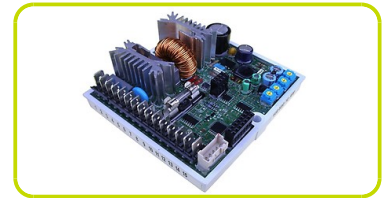
Generator stator is wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th ...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches. MAUX (Standard): The MAUX MeccAlte Auxiliary Winding is a separate winding within the main stators that feeds the regulator. This winding enables to take an overload of 300% forced current (short circuit maintenance) for 20 seconds. This is ideal for motor starting requirements.

Insulation / Impregnation

Insulation is of class H standard. Impregnation is made with premium tropicalised epoxy resins by dipping and dripping. High voltage parts are impregnated by vacuum, so the insulation level is always very good. In the high-power models, the stator windings undergo a second insulation process. Grey protection is applied on the main and exciter stator to give enhanced protection.

Reference standards

Alternator manufactured according to , and complies with , the most common specification such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/CSA-C22.2 No14-95-No100-95.



Genset equipment

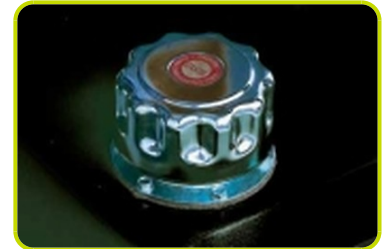
BASE FRAME MADE OF WELDED STEEL PROFILE, COMPLETE WITH:

- Steel base frame with support legs
- Anti-vibration mountings properly sized
- Grounding point to connect all metal parts of the generating set



FUEL TANK WITH THE FOLLOWING COMPONENT:

- Filler neck
- Air breather (ventilation pipe)
- Minimum fuel level sensor



PROTECTIONS:

- Moving and rotating parts protection against accidental contacts.



ENGINE COMPLETE WITH:

- Battery
- Liquids (no fuel)

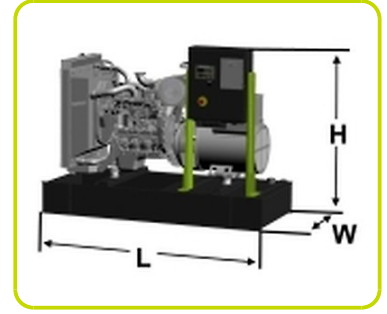
EXHAUST (Standard):

- Industrial silencer (loose)



Dimensional data

Length	(L) mm	2600
Width	(W) mm	1000
Height	(H) mm	1743
Dry weight	Kg	2030
Fuel tank capacity	l	240



Autonomy

Fuel consumption @ 75% PRP	l/h	34.59
Fuel consumption @ 100% PRP	l/h	45.37
Running time @ 75% PRP	h	6.94
Running time @ 100% PRP	h	5.29

Installation data

Total air flow	m ³ /min	44.58
Exhaust gas flow @ PRP	m ³ /min	34.9
Exhaust gas temperature @ LTP	°C	550

Data Current

Battery capacity	Ah	140
MAX current	A	552.26
Circuit breaker	A	630

Control panel availability

MANUAL CONTROL PANEL	MCP
AUTOMATIC CONTROL PANEL	ACP

MCP - Manual control panel

Mounted on the genset and complete of: instrumentation, control, protection of the generating set.

INSTRUMENTATION (ANALOGUE)

- Voltmeter (1 phase)
- Ammeter (1 phase)
- Hours-counter

COMMANDS

- Start/stop selector switch with key (Glow plugs preheating function also included).
- Emergency stop button

PROTECTION WITH ALARM

- Low fuel level
- Battery charger failure
- low oil pressure
- high engine temperature
- Earth Fault.

PROTECTIONS WITH SHUTDOWN

- Low fuel level
- Battery charger failure
- low oil pressure
- high engine temperature.
- Circuit breaker protection: III poles
- Emergency stop button

OUT PUT PANEL MCP

Power cables connection to Circuit Breaker.



ACP - Automatic control panel

Mounted on the genset, complete with digital control unit for monitoring, control and protection of the generating set.

DIGITAL INSTRUMENTATION (through AC-03)

- Generating set voltage (3 phases).
- Mains voltage.
- Generating set frequency.
- Generating set current (3 phases).
- Battery voltage.
- Power (kVA - kW - kVAr).
- Power factor Cos ϕ .
- Hours-counter.
- Engine speed r.p.m.
- Fuel level (%).
- Engine temperature (depending on model)

COMMANDS AND OTHERS

- Four operation modes: OFF - Manual starting - Automatic starting - Automatic test.
- Pushbutton for forcing Mains contactor or Genset contactor.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Remote starting availability.
- DC system disconnection switch.
- Acoustic alarm.
- Automatic battery charger.
- RS232 Communication port.
- Settable PASSWORD for protection level.

PROTECTIONS WITH ALARM

- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage

PROTECTIONS WITH SHUTDOWN

- Engine protections: low fuel level, low oil pressure, high engine temperature,
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure.
- Circuit breaker protection: III poles.
- Earth Fault included in the control unit.

OTHERS PROTECTIONS

- Emergency stop button.



OUT PUT PANEL ACP

Plinth row for connection from ACP to LTS panel.

Power cables connection to Circuit Breaker.

Supplements:

Only Available when order

CONTROL PANEL SUPPLEMENT

RCG - Various supplements for remote controls - available for models: ACP

TLP - Various supplements for remote signals - available for models: ACP

GENSET EQUIPMENT

AFP - Automatic Fuel Pump ACP

ENGINE SUPPLEMENTS

PHS - Coolant Pre-Heating System - available for models: ACP



Accessories

Items available as accessory equipment

FEC - Flexible Exhaust Compensator Bellow and flanges

RES - Residential silencer



LTS - LOAD TRANSFER SWITCH - Accessories ACP

Automatic under-load change-over (AC22, AC23) from and to any of positions "1", "0", "2" both electrical and manual (emergency change-over), transfer function with direct transition from position "1" to position "2" and vice versa.

- Safety: locking by padlock preventing any electrical or manual operation, key lock for the selection of electrical or manual operation.- Quick operating time from pos. "1" to "2" and vice versa.

- Easy and fast electrical connections by means of terminal blocks of quick connection type.

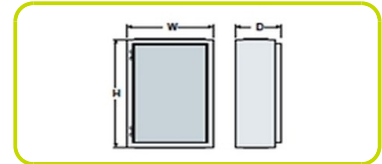
- Conformity to standards: IEC 60947-1 IEC 60947-3, CEI EN 60947-1 / CEI EN 60947-3 IEC 439-1, CEI EN 60439-1 IEC 204-1, CEI EN 60204-1, VDE 0660 Teil 107



NOMINAL CURRENT & DIMENSIONS PANEL LTS (standard*)

Nominal Current	A	630
Code LTS		SY000A000UB
Width	(W) mm	900
Height	(H) mm	700
Depth	(D) mm	450
Weight	Kg	60

* = Available electrical power more



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