

PROUDLY 100% AUSTRALIAN OWNED

MACFARLANE GENERATORS



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GSW220D



Main Features

Frequency	Hz	50
Voltage	V	400
Power factor	$\cos \phi$	0.8
Phase and connection		3

Power Rating

Standby power LTP	kVA	220.00
Standby power LTP	kW	176.00
Prime power PRP	kVA	203.71
Prime power PRP	kW	162.97

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	Deutz	
Model	BF6M1013 FC G3	
[50Hz] Exhaust emission level	Stage II	
Engine cooling system	Water	
Nr. of cylinder and disposition	6 in line	
Displacement	cm ³	7146
Aspiration	Turbocharged intercooled	
Speed governor	Electronic	
Prime gross power PRP	kW	183
Maximum gross power LTP	kW	201
Oil capacity	l	20
Lube oil consumption @ PRP (max)	%	0.3
Coolant capacity	l	27.3
Fuel	Diesel	
Specific fuel consumption @ 75% PRP	g/kWh	222
Specific fuel consumption @ PRP	g/kWh	226
Starting system	Electric	
Starting engine capability	kW	3
Electric circuit	V	12



Engine and block

- Watercooled cylinder in-line engine.
- Turbocharging and turbocharging with charge air cooling.
- Modern high-pressure fuel injection system with single injection pumps.
- All servicing points on one side.
- Exemplarily low fuel and oil consumption, long service intervals save operating costs.
- Outstanding load acceptance ensures immediate power supply.

Cooling system:

- NT cooling system/intercooler mounted
- Pusher-type fan
- Guard

Filter:

- Dry air cleaner mounted, with connection for restriction indicator

Fuel system

- Fuel filter
- Fuel prefilter

Alternator Specifications

Brand	Mecc Alte	
Model	ECO38-2SN/4	
Voltage	V	400
Frequency	Hz	50
Power factor	cos ϕ	0.8
Type	Brushless	
Poles	4	
Voltage regulation system	Electronic	
Standard AVR	DSR	
Voltage tolerance	%	1
Efficiency @ 75% load	%	92.9
Class	H	
IP protection	23	



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:

- Anti-vibration mountings properly sized
- Welded or Screwed support legs. (according to canopy size)

PLASTIC FUEL TANK WITH THE FOLLOWING COMPONENT:

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

OIL DRAININ PIPE WITH CAP:

- Oil draining facilities

ENGINE COMPLETE WITH:

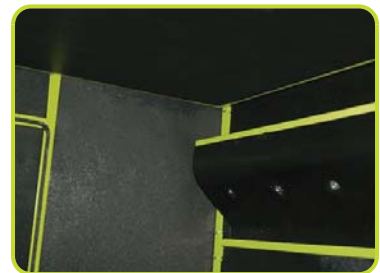
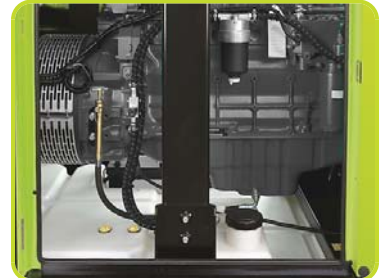
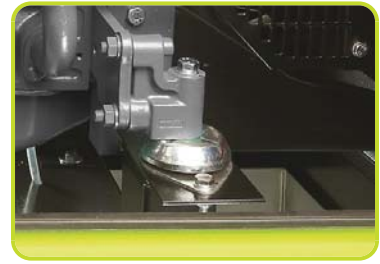
- Battery
- Liquids (no fuel)

CANOPY:

- Soundproof canopy made up of modular panels, realized with zinc steel as treatment against corrosion and aggressive conditions, properly fixed and sealed allowing a full weatherproof enclosure.
- Easy access to the genset for maintenance purposes thanks to: Wide lateral access doors fixed by stainless steel hinges and provided with plastic lockable handles; Detachable panels, with screws holes protected by rubber tap.
- Control panel protection door provided with suitable window and lockable handle.
- Lateral air inlet opening properly protected and soundproofed. Exhaust air outlet from the roof, trough wet section protected by proper grid.
- Single detachable lifting eye placed on the roof.

SOUNDPROOF:

- Noise attenuation thanks to soundproofing material (rock wool)
- Efficient residential silencer placed inside the canopy



Dimensional data

Length	(L) mm	3400
Width	(W) mm	1250
Height	(H) mm	2000
Dry weight	Kg	2514
Fuel tank capacity	l	360



Autonomy

Fuel consumption @ 75% PRP	l/h	36.67
Fuel consumption @ 100% PRP	l/h	49.24
Running time @ 75% PRP	h	9.82
Running time @ 100% PRP	h	7.31

Noise level

Guaranteed noise level (LWA)	dB(A)	97
Noise pressure level @ 7 mt	dB(A)	68



Installation data

Exhaust gas flow @ PRP	m³/min	35.2
Exhaust gas temperature @ LTP	°C	530

Data Current

Battery capacity	Ah	150
MAX current	A	317.55
Circuit breaker	A	350

Control panel availability

AUTOMATIC CONTROL PANEL	ACP
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