

PROUDLY 100% AUSTRALIAN OWNED

**MACFARLANE
GENERATORS**



ESTABLISHED 1949

VICTORIA (HEAD OFFICE) REC: 691

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NEW SOUTH WALES BRANCH REC: 261624C

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QUEENSLAND BRANCH REC: 72635

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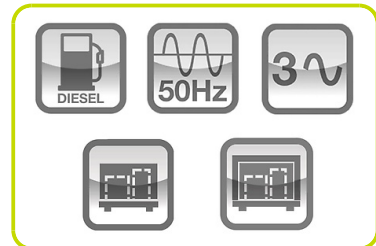
Macfarlane Generators PTY. LTD. ACN 006 849 074 ABN 74 006 849 074

GPW20P/FS5



Power Rating

Emergency Standby Power ESP	kVA	22.0
Emergency Standby Power ESP	kW	17.6
Prime power PRP	kVA	20.0
Prime power PRP	kW	16.0
Voltage	V	400/230
Frequency	Hz	50
Power factor	cos ϕ	0.8
Phases		3
Fuel		Diesel



Ratings definition (ISO-8528)

ESP - Emergency Standby Power:

It is the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24 h of operation shall not exceed 70 % of the ESP.

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.

G2 class load acceptance in accordance with ISO 8528-5:2013 Higher performance classes check upon request.

Gensets are compliant with EC mark which includes the following directives:

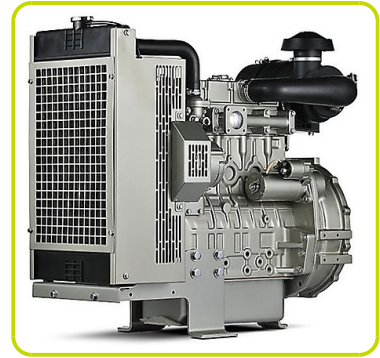
- 2006/42/CE Machinery safety.
- 2014/30/UE Electromagnetic compatibility.
- 2014/35/UE electrical equipment designed for use within certain voltage limits
- 2000/14/EC Sound Power level. Noise emissions outdoor equipment. (amended by 2005/88/EC) – If applicable
- 97/68/EC Emissions of gaseous and particulate pollutants. (amended by 2002/88/EC & 2004/26/EC) – If applicable
- EN 12100, EN 13857, EN 60204

Company with quality certification ISO 9001



Engine specifications

Engine brand	Perkins	
Model	404J-22G	
Operation Speed Nominal	rpm	1500
Engine cooling system	Water	
Exhaust emission level	Stage V	
Nr. of cylinder and disposition	4 in line	
Displacement	cm ³	222
Aspiration	Type	Natural
Speed governor	Mechanical	
Gross Engine Power ESP	kWm	20.6
Gross Engine Power PRP	kWm	18.6
Fan Power	kWm	0.1
Fan Air flow	m ³ /min	40.2
Total Oil capacity	l	6
Total Coolant capacity	l	7
Fuel	Diesel	
Specific Fuel consumption 75% PRP	g/kWh	243
Starting system	Electric	
Electric circuit	V	12



Alternator specifications

Alternator brand	Mecc alte	
Model	ECP28 M4 C	
Winding	Standard	
Winding Connections	Type	Series Star
Frequency	Hz	50
Voltage	V	400
Phases	3	
Power factor	cos ϕ	0.8
Stand-by rating 27°C	kVA	22
Continuous Nominal Rating 40°C	kVA	20
Efficiency @ 100% of load	%	87
Type	Brushless	
Poles	4	
Voltage tolerance	%	1
Class	H	
IP protection	23	



Installation data

Cooling air	m ³ /min	49
Exhaust gas flow PRP	m ³ /min	3.64
Exhaust gas temperature	°C	490
Fuel consumption 75% PRP	l/h	3.96
Fuel consumption 100% PRP	l/h	5.53

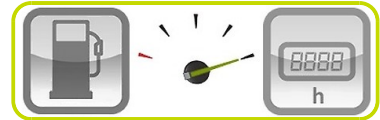


Fuel Tank - Options Available:

To be ordered with equipment (when necessary)

AUTONOMY

8PFT Running time 75% PRP	h	20.20
MFT-XS Running time 75% PRP	h	16.41
MFT-S Running time 75% PRP	h	30.30
MFT-M Running time 75% PRP	h	61.87



PFT Plastic Fuel Tank	Type	8
8PFT Fuel tank capacity	l	80
8PFT Fuel tank location		Internal



MFT Metal Fuel Tank	Type	XS
MFT-XS Fuel tank capacity	l	65
MFT-XS Fuel tank location		Internal

MFT Metal Fuel Tank	Type	S
MFT-S Fuel tank capacity	l	120
MFT-S Fuel tank location		With sub-base
MFT-S EXTRA Height	mm	193
MFT-S EXTRA Weight	Kg	145



MFT Metal Fuel Tank	Type	M
MFT-M Fuel tank capacity	l	245
MFT-M Fuel tank location		With sub-base
MFT-M EXTRA Height	mm	193
MFT-M EXTRA Weight	Kg	172

Electrical Data

Battery Voltage	V	12
Genset Voltage	V	400/230
Frequency	Hz	50
Phases		3
Power Factor	cos ϕ	0.8
Max current	A	32
Nominal current	A	29
Circuit breaker	A	32



Control panel - Options Available:

MANUAL REMOTE START PANEL	MRS
AUTOMATIC CONTROL PANEL	ACP



MRS - MANUAL REMOTE START PANEL

- Manual and remote start controller
- Automatic mains failure start function
- 3 phase mains measurements
- 3 phase generator protections
- Running hours
- 50 events, warnings or shutdown alarms with running hours stamp



Power supply by circuit breaker and/or terminal bus bar

ACP - AUTOMATIC CONTROL PANEL

- Auto Mains Failure (AMF) function
- Gen-set controller for single genset operating in standby or prime power modes
- Full gen-set monitoring and protection
- Detailed event and performance log with time and date
- Wide range of remote control modules available as option
- Wide range of I/O expansion modules available as option



Power supply by terminal bus bar

CONTROL PANEL - Optional Equipment:

External terminal board	ETB
Differential Protection	ADI



SOCKETS PANEL - Optional Equipment:

- Sockets panel positioned on the frontal side, separated from control panel cabinets
- High flexibility of sockets kit scope of supply
- Easy and fast power cables connection
- Sockets kit to be define during the order



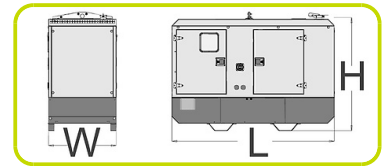
CANOPY VERSION

- Weatherproof Enclosure made of galvanized sheet metal allows to protect genset from corrosion and aggressive condition
- Soundproofed enclosure tanks to high quality soundproof material and residential silencer, allows to have low noise emission level
- Big large lateral doors allows an easy service and maintenance operation
- Doors equipped with key lockable handles
- Baseframe made of welded steel profile
- Anti-vibration mountings properly sized
- Screwed support legs
- Hole for handling by crane
- Moving and rotating parts protection against accidental contact
- Grounding point to connect all metal parts to ground
- Robust Lifting bridge, with single lifting point positioned on the roof



Dimensional data Canopy Version

Length	(L) mm	2200
Width	(W) mm	1020
Height	(H) mm	1313



Weight	Kg	778
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Noise Level Canopy Version

Guaranteed noise level (LWA)	dB(A)	88
Noise pressure level @ 1 m	dB(A)	71
Noise pressure level @ 7 m	dB(A)	59



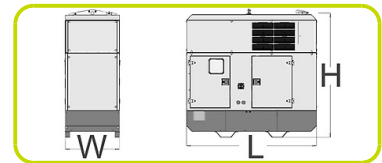
CANOPY EXTRA SILENT VERSION

- Extra silent Enclosure with low noise emission, suitable for installation near city centre and in any place where severe noise emission restriction are present
- Extra Silent Enclosure guarantee very low noise emission thanks to an additional soundproofing modules, high quality soundproof material and residential silencer installed inside the enclosure
- Weatherproof Enclosure made of galvanized sheet metal allows to protect genset from corrosion and aggressive condition
- Big large lateral doors allows an easy service and maintenance operation
- Doors equipped with key lockable handles
- Baseframe made of welded steel profile
- Anti-vibration mountings properly sized
- Screwed support legs
- Hole in the baseframe for handling by crane
- Moving and rotating parts protection against accidental contact
- Grounding point to connect all metal parts to ground
- Robust Lifting bridge, with single lifting point positioned on the roof



Dimensional data Canopy (Extra Silent Enclosure)

Length	(L) mm	2200
Width	(W) mm	1020
Height	(H) mm	1904



Weight	Kg	947
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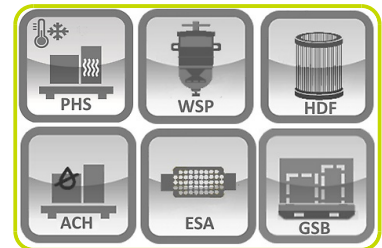
Noise Level Canopy (Extra Silent Enclosure)

Guaranteed noise level (LWA)	dB(A)	85
Noise pressure level @ 1 m	dB(A)	68
Noise pressure level @ 7 m	dB(A)	56



OPTIONAL FEATURES

To be ordered with equipment (when necessary)	:
Pre-Heating System	PHS
Air Shut-Off Valve	ASV
Electronic Engine Governor	EEG
Heavy-Duty Air Filter	HDF
Water Separator Filter	WSP
Exhaust Spark Arrestor	ESA
Hot Parts Protection	HPP
Alternator Winding Total Protection	WTP
Alternator anti-condensation heater	ACH
Galvanized skid base with fork lift point	GSB



The information is aligned with the Data file at the time of download. Printed on 13/01/2023 (ID 14596)

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