

# GBW22P



## Main Features

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

## Power Rating

Standby power LTP	kVA	22.00
Standby power LTP	kW	17.60
Prime power PRP	kVA	20.01
Prime power PRP	kW	16.01

### Ratings definition (According to standard ISO8528 1:2005)

#### PRP - Prime Power:

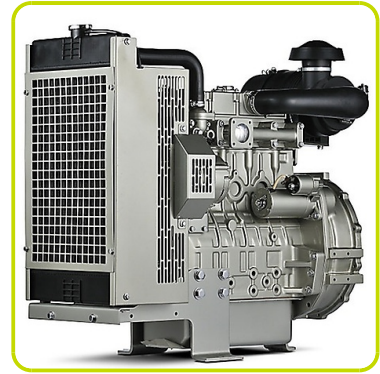
It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out 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	404D-22G	
[50Hz] Exhaust emission level	Stage IIIA	
Engine cooling system	Water	
Nr. of cylinder and disposition	4 in line	
Displacement	cm <sup>3</sup>	2216
Aspiration	Natural	
Speed governor	Mechanical	
Prime gross power PRP	kW	18.7
Maximum gross power LTP	kW	20.6
Oil capacity	l	10.6
Coolant capacity	l	7
Fuel	Diesel	
Specific fuel consumption @ 75% PRP	g/kWh	238
Specific fuel consumption @ PRP	g/kWh	237
Starting system	Electric	
Starting engine capability	kW	2
Electric circuit	V	12



## Engine Equipment

### Standards

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1

### Fuel system

Rotary type pump

### Lube oil system

Wet steel sump with filler and dipstick

### Filter

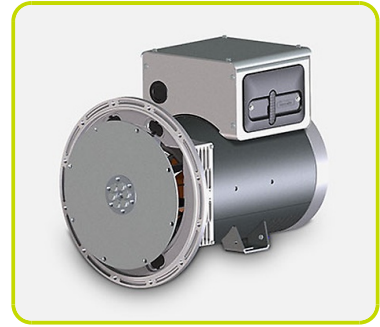
- Fuel filter
- Air filter
- Oil filter

### Cooling system

- Mounted radiator
- Thermostatically-controlled system with belt driven coolant pump and pusher fan

## Alternator Specifications

Alternator	Mecc Alte	
Model	ECP28-M4 C	
Voltage	V	400
Frequency	Hz	50
Power factor	cos $\phi$	0.8
Type	Brushless	
Poles	4	
Standard AVR	DSR	
Voltage tolerance	%	1
Efficiency @ 75% load	%	88,2
Class	H	
IP protection	23	

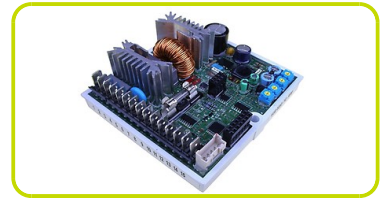


### Mechanical structure

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 WELDER STEEL PROFILE, COMPLETE WITH:

- Anti-vibration mountings properly sized
- Visual fuel level indicator
- Integrated support legs.

### PLASTIC FUEL TANK, COMPLETE WITH:

- Filler neck
- Air breather (ventilation pipe)
- External fuel refilling

### OIL DRAININ PIPE WITH CAP:

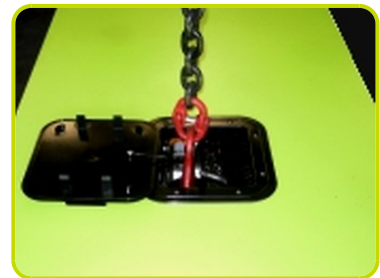
- Oil draining facilities

### CANOPY:

- Single piece hinged soundproof canopy equipped with pneumatic arms and handles to lift up the canopy allowing easy access to the genset for maintenance purposes.
- Simple handling operations with central lifting eye

### SOUNDPROOF:

- Noise attenuation thanks to soundproofing material (polyurethane foam) and efficient residential silencer placed inside the canopy.



### Dimensional data

Length	(L) mm	1645
Width	(W) mm	870
Height	(H) mm	1060
Dry weight	Kg	545
Fuel tank capacity	l	51
Fuel tank material		Plastic



### Autonomy

Fuel consumption @ 75% PRP	l/h	3.95
Fuel consumption @ 100% PRP	l/h	5.28
Running time @ 75% PRP	h	12.91
Running time @ 100% PRP	h	9.66

### Noise level

Guaranteed noise level (LWA)	dB(A)	95
Noise pressure level @ 7 m	dB(A)	66

### Installation data

Exhaust gas flow @ PRP	m <sup>3</sup> /min	3.64
Exhaust gas temperature @ LTP	°C	445

### Electrical Data

MAX current	A	31.76
Circuit breaker	A	32

### Control panel availability

MANUAL CONTROL PANEL	MCP
AUTOMATIC CONTROL PANEL	ACP

## MCP - Manual control panel

Manual control panel, mounted on the genset and complete of: instrumentation, control, protection and sockets

### INSTRUMENTATION (ANALOGUE)

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

### COMMANDS AND OTHERS

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

### PROTECTION WITH ALARM

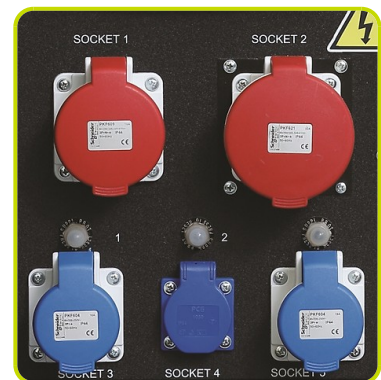
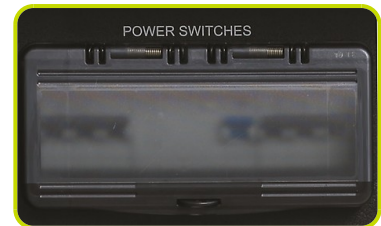
- Battery charger failure
- Low oil pressure
- High engine temperature
- Earth Fault

### PROTECTIONS WITH SHUTDOWN

- Battery charger failure
- Low oil pressure
- High engine temperature
- Circuit breaker protection: III poles

### OTHERS

- Cover protection power switch



### OUT PUT PANEL MCP

Socket kit		Standard
Thermal protections		
3P+N+T CEE 400V 32A	n	1
3P+N+T CEE 400V 16A	n	1
2P+T CEE 230V 16A	n	2
230V 16A SCHUKO	n	1

## ACP - Automatic control panel

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

### INSTRUMENTATION DIGITAL

- Mains voltage.
- Generating set voltage (3 phases).
- Generating set frequency
- Generator set current (1 phase).
- Battery voltage
- Hours-counter.

### 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
- Emergency stop button.
- Remote starting availability.
- DC system disconnection switch
- Automatic battery charger
- Settable PASSWORD for protection level

### PROTECTIONS WITH ALARM

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

### PROTECTIONS WITH SHUTDOWN

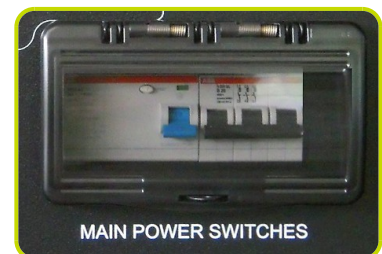
- Engine protections: low oil pressure, high engine temperature
- Genset protection: under/over voltage, overload, under/over battery voltage
- Circuit breaker protection: III poles
- Differential protection

### OTHERS

- Cover protection Power switch

### OUT PUT PANEL ACP

Plinth row for connection from ACP to LTS panel.		√
3P+N+T CEE 400V 32A	n	1



**Supplements:**

To be ordered with the equipment

:

**ENGINE SUPPLEMENTS**

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

ACP



## Accessories

Items available as accessory equipment

STR - Site trailer	•
RTR - Road Trailer	•



### LTS - Load Transfer Switch [Accessories for ACP Automatic Control Panel]

The Load Transfer Switch (LTS) panel operates the power supply changeover between the generator and the Mains in backup applications, guarantying the feeding to the load within a short period of time.

It consists of a standalone cabinet which can be installed separate from the generating set. The logic control of the power supply changeover is operated by means of the Automatic Control panel mounted on the generating set, so therefore none logic device is required on the LTS panel.



The information is aligned with the Data file at the time of download. Printed on 31/08/2020 (ID 12180)

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