GBW-45Y (ALT. P)

Main Features		
Frequency	Hz	50
Voltage	V	400
Power factor	cos ϕ	0.8
Phase		3

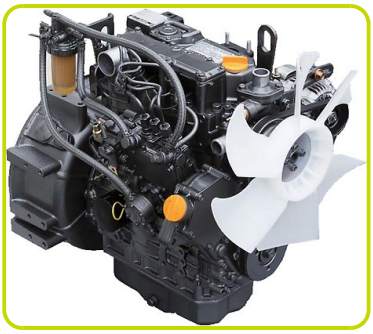
Power Rating		
Standby power LTP	kVA	44.76
Standby power LTP	kW	35.81
Prime power PRP	kVA	42.49
Prime power PRP	kW	33.99

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		Yanmar
Model		4TNV98T-GPGEC
[50Hz] Exhaust emission level		Stage II
Engine cooling system		Water
Nr. of cylinder and disposition		4 in line
Displacement	cm^3	3319
Aspiration		Turbocharged
Speed governor		Mechanical
Prime gross power PRP	kW	39.7
Maximum gross power LTP	kW	41.8
Oil capacity	l	10.5
Coolant capacity	l	4.2
Fuel		Diesel
Specific fuel consumption @ 75% PRP	g/kWh	231
Specific fuel consumption @ PRP	g/kWh	231
Starting system		Electric
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

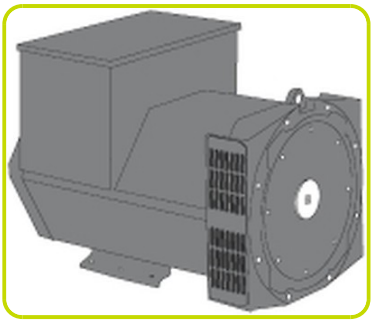
Fuel system
• Direct injection system
• Fuel filter paper element
• Fuel pump Bosch in-Line

Lube oil system
• Forced feed system
• Trochoid pump
• Paper element lube oil filter

Induction system
• Mounted air filter

Cooling system
• Thermostatically-controlled system with gear-driven circulation pump and belt-driven pusher fan
• Mounted radiator and piping

Alternator Specifications		
Alternator		Pramac
Model		PB22C/4
Voltage	V	400
Frequency	Hz	50
Power factor	cos ϕ	0.8
Poles		4
Standard AVR		AS440
Voltage tolerance	%	1
Efficiency @ 75% load	%	88
Class		H
IP protection		22



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

Voltage regulator
AVR - STANDARD
With this self excited control system the main stator supplies power via the Automatic Voltage Regulator (AVR) to the exciter stator. The high efficiency semiconductors of the AVR ensure positive build-up from initial low levels of residual voltage.
The exciter rotor output is fed to the main rotor through a three phase full wave bridge rectifier. This rectifier is protected by a surge suppressor against surges caused, for example, by short circuit.

Windings & Electrical performance
All generator stators are 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, when in parallel with the mains. A fully connected damper winding reduces oscillations during paralleling. This winding, with the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.

Insulation / Impregnation
The insulation system is class 'H'.
All wound components are impregnated with materials and processes designed specifically to provide the high build required for static windings and the high mechanical strength required for rotating components.

Reference standards
Pramac Alternators meet the requirements of BS EN 60034 and the relevant sections of other national and international standards such as BS5000, VDE 0530, NEMA MG1-32, IEC34, CSA C22.2-100, AS1359.

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:

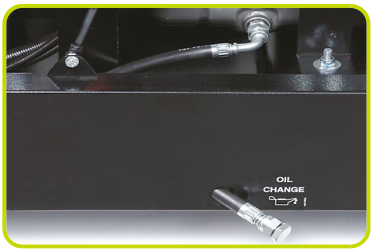
• Filler neck

• Air breather (ventilation pipe)

• External fuel refilling

OIL DRAININ PIPE WITH CAP:

• Oil draining facilities



CANOPY:

Soundproof canopy made up of modular panels
• 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 and internal perforated galvanized steel-sheet; 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 and efficient residential silencer placed inside the canopy.

Dimensional data		
Length	(L) mm	2000
Width	(W) mm	920
Height	(H) mm	1265
Dry weight	Kg	778
Fuel tank capacity	l	51
Fuel tank material		Plastic

Autonomy		
Fuel consumption @ 75% PRP	l/h	8.08
Fuel consumption @ 100% PRP	l/h	10.92
Running time @ 75% PRP	h	6.31
Running time @ 100% PRP	h	4.67

Installation data		
Exhaust gas flow @ PRP	m³/min	8.4
Exhaust gas temperature @ LTP	°C	470

Electrical Data		
Battery capacity	Ah	70
MAX current	A	64.61
Circuit breaker	A	63

Control panel availability	
AUTOMATIC CONTROL PANEL	ACP

ACP - Automatic control panel

Automatic control panel mounted on the genset, complete with digital control unit AC03 for monitoring, control and protection of the generating set.

INSTRUMENTATION DIGITAL (AC-03)

- 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

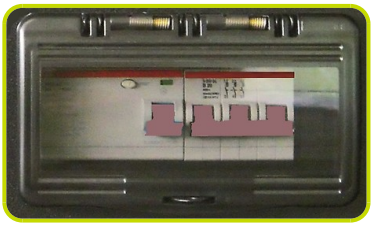
- Engine protections: low oil pressure, high engine temperature
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage, battery charger failure

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



Supplements:	
To be ordered with the equipment	:

ENGINE SUPPLEMENTS

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

Accessories

Items available as accessory equipment

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

Load Transfer Switch panel complete with:

• Change-over switch 4pole made by means of two switch disconnectors mechanically interlocked.

• Emergency stop button

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.