GBW-15Y (ALT. P)

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

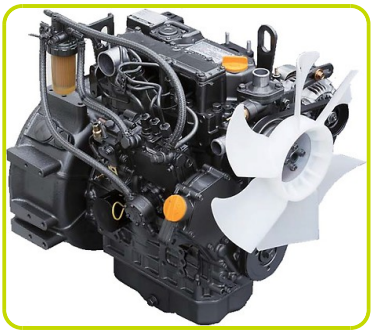
Power Rating		
Emergency Standby Power ESP	kVA	13.60
Emergency Standby Power ESP	kW	10.88
Prime power PRP	kVA	12.90
Prime power PRP	kW	10.32

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.

Engine specifications		
Engine Brand		Yanmar
Model		3TNV88-BGPGEC
[50Hz] Exhaust emission level		Unregulated
Engine cooling system		Water
Nr. of cylinder and disposition		3 in line
Displacement	cm³	1642
Aspiration		Natural
Speed governor		Mechanical
Prime gross power PRP	kW	13.3
Maximum gross power LTP ESP	kW	14
Oil capacity	l	6.9
Coolant capacity	l	2
Fuel		Diesel
Specific fuel consumption 75% PRP	g/kWh	250
Specific fuel consumption PRP	g/kWh	250
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

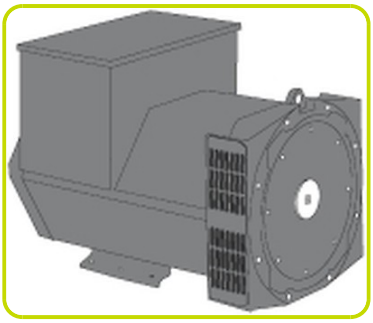
Fuel system
• Direct injection system
• Fuel filter paper element
• Fuel pump Bosch in-Line

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		PB16C/4
Voltage	V	400
Frequency	Hz	50
Power factor	cos ϕ	0.8
Poles		4
Voltage tolerance	%	1.5
Efficiency @ 75% load	%	83
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

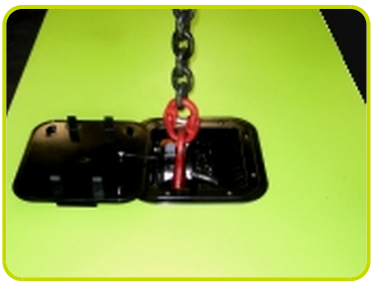
• Air breather (ventilation pipe)

• External fuel refilling

OIL DRAININ PIPE WITH CAP:

• Oil draining facilities

CANOPY:



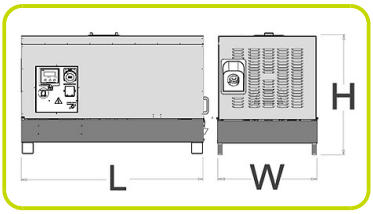
• Single piece hinged soundproof canopy equipped with pneumatic arms and handles to lift up the canopy allowing easy access to the genset for maintenance purposes.

• 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	1640
Width	(W) mm	900
Height	(H) mm	1075
Dry weight	kg	470
Fuel tank capacity	l	51
Fuel tank material		Plastic



Autonomy		
Fuel consumption @ 75% PRP	l/h	2.89
Fuel consumption @ 100% PRP	l/h	3.96
Running time 75% PRP	h	17.65
Running time 100% PRP	h	12.88

Installation data		
Exhaust gas flow	m³/min	2.6
Exhaust gas temperature	°C	450

Electrical Data		
Battery capacity	Ah	70
Max current	A	19.63
Circuit breaker	A	20

Control panel availability	
AUTOMATIC CONTROL PANEL	ACP

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.
• Battery voltage
• Hours-counter.

COMMANDS AND OTHERS

• Operation modes: OFF - Manual Starting - Automatic Starting.
• Push-buttons: start/stop, fault reset, up/down/page/enter selection.
• Emergency stop button.
• Remote starting availability.
• Automatic battery charger.
• USB port.

PROTECTIONS WITH ALARM

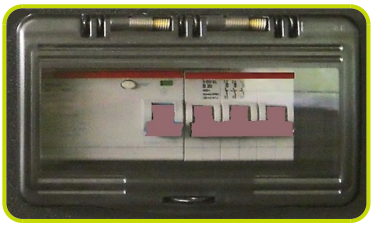
• Engine protections: low oil pressure, high engine temperature
• Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage, battery charger failure

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.		√
Power cables connection to Circuit Breaker.		√
3P+N+T CEE 400V 32A	n	1 [●]
[●] = Supplement available		

Supplements:	
To be ordered with equipment (when necessary)	:

ENGINE SUPPLEMENTS

PHS - Coolant Pre-Heating System	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.