

**Standby Power (ESP)**

Standby power is defined as 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 500 hours of operation per year under average of 70% load. Overloading is not permissible

**Prime Power (PRP)**

Prime power is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load. Average load should be 70%. The generator can be overloaded 10% for 1 hour per 12 hours.

**Power Output Ratings 50 Hz. / 400 V**

Standby Power (ESP)	kVA	22
	kW	18
Prime Power (PRP)	kVA	20
	kW	16

**Engine**

Manufacturer		YANG DONG
Model		YND 480 D
No of Cylinder / Configuration		4 IN-LINE
Displacement lt	lt	1,8
Bore / Stroke	mm	80/90
Compression Ratio		18:01
Aspiration		NATURAL
Governor Type		MECHANICAL
Cooling System		WATER
Coolant Capacity	lt	9
Lubrication Oil Capacity	lt	5
Electrical System	VDC	12
Speed / Frequency	rpm	1500 rpm / 50 Hz
Engine Gross Power	kWm	15
Fuel Consumption	100%	4
Exhaust Outlet Temperature	°C	425
Exhaust Gas Flow	m³/min	5,8
Combustion Air Flow	m³/min	5,8
Cooling Air Flow	m³/min	120

**Alternator**

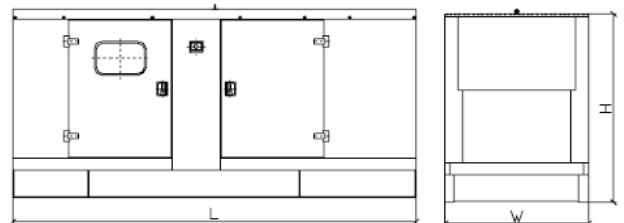
Model		
Power Factor		0,8
No of Bearing		SINGLE
No of Poles		4
No of Leads		12
Voltage Regulation ( Steady State)		± %0,5
Insulation		H
Degree of Protection		IP23
Excitation System		AVR, BRUSHLESS
Connection Type		STAR
Total Harmonic Content (No Load)		< %2
Frequency	Hz	50
Voltage Output	VAC	231/400

**DIMENSION**

	W x L x H (mm)	Weight (kg)	Fuel Tank (lt)
Canopied	1510x820x1150	650	35
Open Skid	N/A	N/A	N/A

Technical information and values are according to ISO8528, ISO3046, NEMA MG1.22, IEC 600341, BS 49995000, VDE 0530 standards. Producing with ISO9001, CE standards.

All information given in this leaflet is intended for general purposes only. Due to a policy continuous improvement REAL reserves the right to amend details and specifications without notice and all information given is subject to the REAL's current condition of sales.



## DESIGN SPECIFICATIONS

High quality, reliable and complete power unit, Compact design, Easy start and maintenance possibility, Every generating set is subjected to a comprehensive test programme which includes full load testing and checking and providing of all control and safety shut down functions testing, Full engineered with a wide range of options and accessories: Canopy, soundproof and on road trailer

## STANDARD GENSET SPECIFICATIONS

### ENGINE

Heavy duty diesel engine. Four stroke, water cooled. Direct injection fuel system. 12 V DC starter and charge alternator. Replaceable fuel filter. Oil filter and dry element air filter. Cooling radiator and fan, starter battery (with lead acid) including rack and cables, flexible fuel connection hoses and manual oil sump drain valve, industrial capacity exhaust silencer and steel bellows, jacket water heater (at automatic models) operation manuals and circuit diagrams

### ALTERNATOR

Brushless, single bearing system, flexible disc, 4 poles, Insulation class H, Standard degree of protection IP21, Self-exciting and self-regulating, Impregnation with tropicalised epoxy varnish, Solid state Automatic Voltage Regulator

### BASE FRAME

The complete genset is mounted as whole on a heavy-duty fabricated, steel base frame. Antivibration pads are fixed between the engine/ alternator feet and the base frame. Base frame design incorporates an integral fuel tank. The generating set can be lifted or carefully pushed / pulled by the base frame, Dial type fuel gauge and drain plug on the fuel tank. forklift pockets within base frame.

### CANOPY

All canopy parts are designed with modular principles. Doors on each side. Without welding assembly. All metal canopy parts are painted by electrostatic Easy maintenance and operation polyester powder paint Thermally insulated engine exhaust system Emergency stop push button is installed outside of canopy To enable for lifting easy maintenance and operation

### CONTROL SYSTEM

#### Panel Equipments;

Control, supervision and protection panel is mounted on the genset base frame. The control panel is equipped as follows:

#### 1-Auto. Mains Failure Control Panel

Control Panel Equipments:  
Control panel with TPH 309 module  
Static battery charger  
Emergency stop push button

#### 1.1 Generating Set control module TPH 309 features:

The module is used to monitor a mains supply and automatic start a stand-by generating set.  
Micro-processor based design  
Monitors engine performance and AC power output  
LED and LCD alarm indication  
Front panel configuration of timers and alarm trip points  
provides signal to change over switch panel  
event logging of shutdown alarms  
Remote communication via RS232 port or RS485 modbus output  
easy push button control  
STOP/RESET-MANUAL-AUTO-TEST-START  
Operation indicators accessed by the LCD display scroll push button.

#### Metering via LCD Display:

Generator Volts (L-L/L-N)  
Generator Amps (L1-L2-L3)  
Generator Frequency (Hz)  
Engine hours run  
Engine oil pressure (PSI&Bar)  
Engine speed RPM  
Engine temperature (C & F)  
Generator KVA  
Generator kW  
Generator power factor  
Mains Frequency (Hz)  
Mains Volts (F-F/F-N)  
Plant battery volts



#### Automatic shutdown on fault conditions

Under/Over Speed  
High Engine Temperature  
Low Oil Pressure  
Under/over generator volts  
Under/over generator frequency  
under/over mains frequency  
under/over mains voltage  
Low/High battery volts  
Fail to start  
Fail to stop  
Charge fail  
Over current  
Emergency stop  
CAN data fail  
CAN ECU fail

#### LED indications

Mains available  
Generator available  
Mains on load  
Generator on Load

#### 2. Power Outlet Terminal Board Mounted on the Genset Baseframe