



Yicheong Jichai Power Co.,Ltd.

<http://www.ycgenset.com>

GENSET MODEL:YC20G
TECHNICAL DATA SHEET



ISO14001:2004



ISO9001:2000

YICHEONG POWER GENERATOR

YC20G

STANDARD SPECIFICATION

General Features:

- Composed of YUCHAI diesel engine and Stamford or Leroy Somer alternator
- 24V DC start motor and storage battery
- Brushless, Self-excited, IP23, insulation class H alternator
- Engine cooling system: water-cooled
- Key start panel control system as standard, digital auto-start panel is optional
- 10-hour operation base tank
- Optional open type or silent type
- All generating sets are gone through rigorous testing before being released to the market place, including 50% load, 75% load, 100% load, 110% load and all protection function (over-speed stop, high water temperature, low oil pressure, battery charging failure, emergency stop)



Genset Main Technical Data

3P, 50Hz@1500RPM, 400/230V (380/220V and 415/240V are for optional)

Genset Model	Genset Specification					Engine Specification		Alternator Model Marathon /Engga
	Rated Power		Standby Power		Cons. 100% (g/kW.h)	Engine Model	Governor Type	
	KW	KVA	KW	KVA				
YC20G	20	25	22	27.5	≤232	YC3D11D	Merchanical	GM-20-4/EG160M-19N

ASSEMBLY

※ The engine and alternator are close coupled by means of an SAE flange. A full torsional analysis has been carried out to guarantee no harmful vibration will occur.

※ Anti-vibration pads are affixed between engine alternator feet and the base frame. Thus ensuring complete vibration isolation of the rotating assemblies and enabling the machine to be placed on an uneven surface without any detrimental effects.

※ For durability and corrosion resistance, all iron and steel surfaces of canopy fabrications have been treated for coating by grit blast cleaning. Then covered by special three layers painting which provides an excellent corrosion resistant surface.

CONTROL SYSTEM AND PROTECTION

※ Controllers are available for all applications. It contains Deep Sea, Delf, ComAp or other famous brands. According to their different functions, the control systems can be specified into key start controller model, automatic start control model and PCRC three remote control systems. See controller features inside.

WARRANTY

※ YICHEONG Company provides one-source responsibility for the generator set and accessories. Each YICHEONG generating set has been got through 2 hours Load test for running 0%, 25%, 50%, 75%, 100% and 110% load, all protective devices and control function are simulated and checked before despatch.

※ Engine and Alternator are guaranteed for a period of 12 months from the date of commissioning or 18 months from shipping, whichever occurs first.

※ Convenience for operation and maintenance, backed by YUCHAI global service network.

YC20G

Reliable Performance

Voltage regulation

Voltage regulation maintained within $\pm 0.5\%$ as follows:

- Power factor between 0.8-1.0 lagging
- From no load to full load, any steady load
- Speed droop variation under 5%

Frequency/Speed undulation

- Change load from 0-100%, Frequency/Speed Droop Ratio within 5%
- Load from 25-100%, any steady load Frequency/Speed undulation within 0.25%

Effect factor of telecom

- TIF(MAMG1-22) better than 50
- THF(BS EN60034) better than 2%

Engine Features

Compact Engine, light weight, strong power, long time service

Criterion

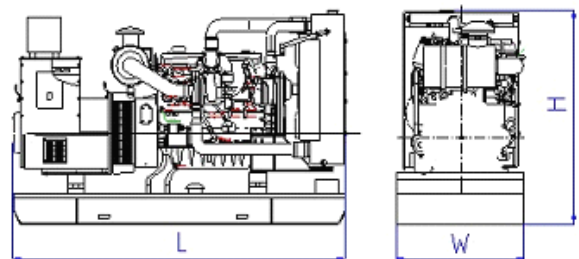
- ISO8528, GB/T2820, ISO3046, BS4999, BS5514, BS5000
- EN12601:2001, EN60034-22:1997, EN60204-1:2006
- ISO9001:2000 Quality Management System & ISO14001:2004, SGS, TL

Dimension and Weight

Open Type

Overall size (L*W*H)
1650 x 770 x 1250

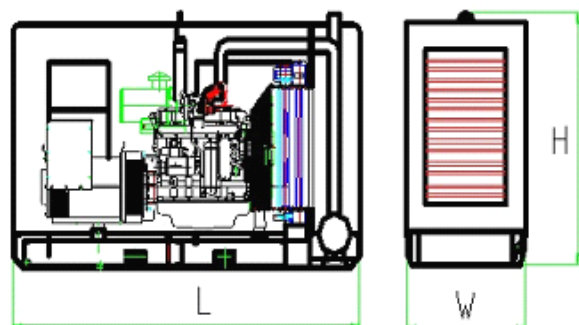
Weight: 660kg



Super Silent Type

Overall size (L*W*H)
2200 x 1070 x 1550

Weight: 820kg



ENGINE SPECIFICATION

Features:

Engine Model	YC3D11D		
Number of Cylinders	3		
Cylinder Arrangement	Vertical in-line		
Cycle	4 stroke		
Aspiration	Natural		
Bore x Stroke(mm x mm)	105 x 120		
Displacement(Liter)	2.493		
Prime Power/Speed (kW/rpm)	30 / 1500		
Standby Power/Speed(kW/rpm)	33 / 1500		
Speed Governor	Mechanical		
Cooling System	Water-cooled		
Speed Stability(%)	≤5%		
Fuel Consumption at 1500RPM			
	110%	22KW/27.5KVA	255. 5g/kW. h
	100%	20KW/25KVA	232g/kW. h
	75%	15KW/19KVA	174g/kW. h
	50%	10KW/12.5KVA	116g/kW. h
	25%	5KW/7KVA	58g/kW. h
Starter Motor	24V		

ALTERNATOR SPECIFICATION

Brand	Marathon	Engga	<p>Alternators meet the requirement of BSEN 60034 and the relevant section of other international standards such as BS5000,VDE0530,NEMA MG1-32,IEC34,CSA22.2-100,As1359,and other standards and certifications can be considered on request.</p> <p>The 2/3 pitch design avoids excessive neutral currents. With the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.</p> <p>Brushless alternator with brushless pilot exciter for excellent load response. Class H insulation, easy parallelling with mains or other generators, standard 2/3 pitch stator windings avoid excessive neutral currents.</p>
Alternator Model	GM20-4	EG160M-19N	
Frequency and Speed	50Hz/1500rpm	50Hz/1500rpm	
Voltage(V)	400/230	400/230	
Prime Capacity(KVA)	25	25	
Prime Power(KW)	20	20	
Power Efficiency(%)	84.9	83.5	
Input Power(KW)	21.8	23.9	
Voltage Regulation	±0.5%	±0.5%	
Voltage regulator	AVR	AVR	
Rated Power Factor	0.8	0.8	
Stator Winding	2/3	2/3	
Maximum Overspeed	1875min ⁻¹	1875min ⁻¹	

CONTROL SYSTEM

1.Standard: HGM170HC Key Start

Providing the standard functions as follows:

(Also can be made according to the customers' special requirements)

- ※ Start/Stop controller
- ※ Ampere meter
- ※ Voltmeter and selector switch
- ※ Frequency meter/Water temperature gauge/Oil pressure gauge/
Hour counter/Battery voltage meter
- ※ Emergency stop pushbutton
- ※ Alarm System: Over speed,High Engine Temperature,Low Oil Pressure,Charge Failure
- ※ Protection System: Over speed,High Engine Temperature,Low Oil Pressure,Emergency Stop.And the other protection function presetting



HGM170HC



DSE5210

2.Option:Deep Sea DSE5210 Digital Auto Start

3.Option:Deep Sea DES5220 Digital Auto Start (AMF) (Option assembled with the ATS)

DigitalAuto-start Generator controller integrating digital,intelligent and network techniques is used for automatic control system of diesel generator.It can carry out functions including automatic start/stop,data measure and alarming.Optionally assembled with the ATS,it can carry out auto-switching between the outer power and generating set

Functions:

- ※ Automatic Start/Stop
- ※ 3 start attempts failure and Automatic Crank Disconnect
- ※ Parameters display(V/A/Hz/Hour)
- ※ Engine monitoring and protection
- ※ Charge alternator exciting and Charge alternator fail alarm
- ※ Running hour counting
- ※ Settings can be adjustable via key buttons on front panel

Shutdown:

- ※ Loss of Speed Signal
- ※ Alternator Under/Over Voltage
- ※ Alternator Under/Over Frequency
- ※ Mains Under/Over Voltage
- ※ Mains Under/Over Frequency
- ※ Under/Over Speed
- ※ Low Oil Pressure
- ※ High Engine Temperature



DSE5220

Warning:

- ※ Alternator Under/Over Voltage
- ※ Alternator Under/Over Frequency
- ※ Mains Under/Over Voltage
- ※ Mains Under/Over Frequency
- ※ Under/Over Speed
- ※ Low Oil Pressure Pre-Alarm
- ※ High Engine Temp. Pre-Alarm
- ※ High/Low Battery Voltage
- ※ Over-current
- ※ Periodic maintenance

Optional Parts:

Engine	Alternator	Generator Set	Fuel System	Canony
<ul style="list-style-type: none"> ● Coolant heater ● Lubricant Oil heater 	<ul style="list-style-type: none"> ● Space heater ● AVR PMG with regulator ● Anti-damp and anti-corrosion treatment ● Anti-condensation heater 	<ul style="list-style-type: none"> ● Tools with the machine 	<ul style="list-style-type: none"> ● Low fuel level alarm ● Automatic fuel feeding system 	<ul style="list-style-type: none"> ● Super silent (65-68Db@7m) ● Normal silent (75-78Db@7m)
Lubricating System	Exhaust Gas System	Cooling System	Control Panel	Output Voltage
<ul style="list-style-type: none"> ● Oil with the machine 	<ul style="list-style-type: none"> ● Protection board from hotness ● Low frequency silencer 	<ul style="list-style-type: none"> ● Front heat protection ● 50°C radiator ● Coolant(-30°C) 	<ul style="list-style-type: none"> ● Remote controller ● Automatic paralleling control panel ● Automatic Transfer/chargeover Switch (ATS) 	<ul style="list-style-type: none"> ● 440/254V ● 416/240V ● 220/127V ● 208/120V



Circuit Breaker



Paralleling/synchronizing System



ATS



Super silent canopy

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