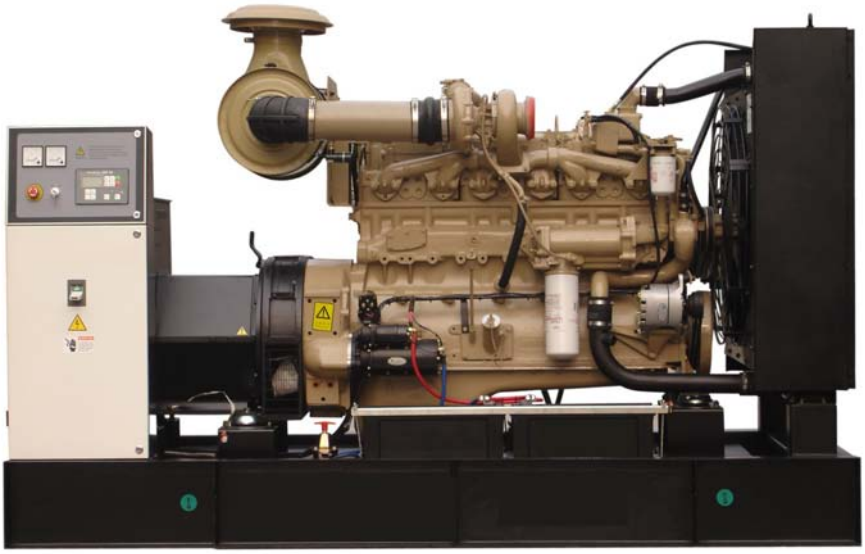
http://www.ycgenset.com

GENSET MODEL: DK110G
TECHNICAL DATA SHEET



IS014001:2004 IS09001:2000

YICHEONG POWER GENERATOR

STANDARD SPECIFICATION

Genset Main Technical Data

3P, 50Hz@1500RPM, 400/230V

(380/220V and 415/240V are for optional)

Genset Model: DK110G

Rated power:

110 KW 138 KVA

Standby power:

120 KW 150 KVA

Engine Model: 6BTAA5.9-G2

Alternator: Stamford UCI 274E

Electrical type: Electrical

General Features:

- Composed of Cummins strong powerful diesel engine and Stanford or Leroy Somer alternator.
- 24V DC start motor and storage battery.
- Brushless, Self-excited, IP23, H insulation.
- 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 super silent type, ATS and synchronizing/paralleling system.
- All generating sets are gone through rigorous testing before being released to the market place,including 50%, 75%, 100%, 110% load and all protection function(over-speed stop, high water temperature, low oil pressure, battery charging failure, emergency stop).

Benefits:

※ Reliable service working, powerful generator with attractive appearance.

※ Low running cost (diesel fuel & oil, maintenance and operation)

※ Easy for commissioning, operation and maintenace.

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. Engine with radiator and alternator are on common spraying powder mounting.

※ 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 drability 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,ComAp or other famous brands. According to their different functions,the control systems can be specified into key start contrller 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 guaranted 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 Cummins global service network.

CRITERION

※ ISO8528, GB/T2820, ISO3046, BS4999, BS5514, BS5000

※ EN12601:2001, EN60034-22:1997, EN60204-1:2006

※ ISO9001:2000, ISO14001:2004, SGS, TLC

ENGINE SPECIFICATION

Engine model **6BTAA5.9-G2**

Design Characteristic:

Belt drive system : Belt drive system with tensioner offering automatic belt tension.

Maintenance: Wet liner capable for quick exchanging, cylinder head valve guide tube can be repaired by resisting.

Connecting rod: Alloy steel with high strength and flat cutting.

Crankshaft: Alloy steel with whole bearing supporting and bearing and round corner harden.

Cylinder block: Alloy casting with wet liner.

Holset turbocharger: H series bypass high efficient turbocharger.

Piston: Silicon- aluminum alloy piston with dual Ni-resist and oil cooling.

Starting function: Be started at -12℃ without assistant installation; Be started at -35℃ with assistant installation.

Construction characteristic: Simple and compact construction, fewer components and light weight.

Attachment（Power Pickup）equipment:

Attachment equipment can be offered according to customer's requirements. For sufficiently unleashing engine performance, whole engine attachments from our company, evaluated by Dongfeng Cummins Engine Company, be recommended.

ENGINE BASIC DATA	
NO. of Sylinder & type	6 in line
Air intake way	Turbocharged
Bore*Stroke(mm)	102*120
Displacement (L)	5.9
Speed-droop	5%
Compression ratio	16.5 : 1
Rated speed(RPM)	1500
Rated power(KW)	120 (150KVA)
Gross power(KW)	130 (162.5KVA)
Torque (Nm)	764
Low Idle speed(rpm)	950-1050
Piston speed(m/s)	6
Coolant flow(L/s)	2
Air intake flow(L/s)	135
Exhaust flow(L/s)	293
Exhaust temperature(℃)	481
EXHAUST SYSTEM	
Max.back of pressure (mmHg)	76
Diameter of exhaust pipe(mm)	75
AIR INTAKE SYSTEM	
Air intake way	Turbocharged
Max.air intake resistance	
Normal air cleaner & filter(mmH_2O)	254
Heavy duty cleaner & filter(mmH_2O)	381
Diameter of intake pipe(mm)	100

LUBRICANTION SYSTEM	
Pressure @ Low idle(kPa)	207
Pressure @ Rated speed(kPa)	345
Max.oil temperature	121
Lubrication system capacity(L)	16.4
Usage inclinng degree permitted	40°
FUEL SYSTEM	
Injection pump model	BYS PB with GAC
Pipe of injection(mmHg)	254
Total fuel overflow(L/h)	30
CONSUMPTION	
110% (L/h) 110KW / 138KVA	30
100% (L/h) 100KW / 125KVA	27
75% (L/h) 75KW / 94KVA	20
50% (L/h) 50KW / 62.5KVA	14
25% (L/h) 25KW / 31.25KVA	8
COOLING SYSTEM	
Coolant capacity (engine) (L)	10
Max.coolant cycling resistance exterior engine(kPa)	28
Thermostat temperature (℃)	83-95
ELECTRIC SYSTEM	
Battery	2*12V
Battery charging system (A)	63
Starter motor (V)	24V DC
Battery type	Lead Acid battery

ALTERNATOR SPECIFICATION

Reliable performance

Voltage regulation

Voltage regulation maintained with in ±0.5% as follow:

- 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

- 0-100% load, Frequency/Speed Droop Ratio ＜5%.
- 25-100% load, any steady load undulation ＜0.25%.

Effect factor of telecom

- TIF(MAMG1-22)＜50; THF(BS EN60034) ＜ 2%

Brand	LEROY SOMER	STAMFORD
Alternator Model	**LSA44.2 S7**	**UCI 274C**
Frequency and Speed	50Hz/1500rpm	50Hz/1500rpm
Voltage(V)	400/230	400/230
Prime Capacity(KVA)	125	140
Prime Power(KW)	100	112
Power Efficiency(%)	91.50%	91.70%
Imput Power(KW)	109	122
Voltage Regulation	±0.5%	±0.5%
Voltage regolator	AVR	AVR
Rated Power Factor	0.8	0.8
Stator Winding	2/3	2/3
Maximum Overspeed	2250min^{-1}	2250min^{-1}
Sustained Short Circuit	300%(3IN): 10S	630Amps
Cooling Air(m^3/s)	0.37	0.514

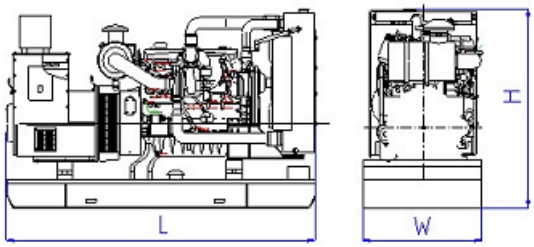
Alternators meet the requirement of BSEN 60034 and the relevant section of other international standards such as BS5000, VDE0530, NEMA MG1-32, IEC34, CSA22.2-100, As1359, and other standards & certifications can be considered on request.
The 2/3 pitch design avoids excessive neutral currents. With the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.
Brushless alternator with 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.
Backed by worldwide service network.

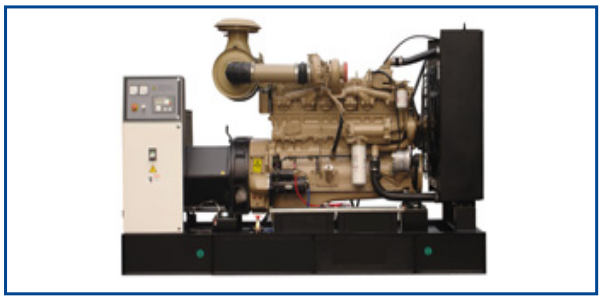
DIMENSION AND WEIGHT

Open frame type

Size (L*W*H, mm) 2500*850*1750 mm

Gross weight: 1450 kgs





Super silent canopy

Over size (L*W*H, mm) 3100*1100*1950 mm

Gross weight: 2150 kgs

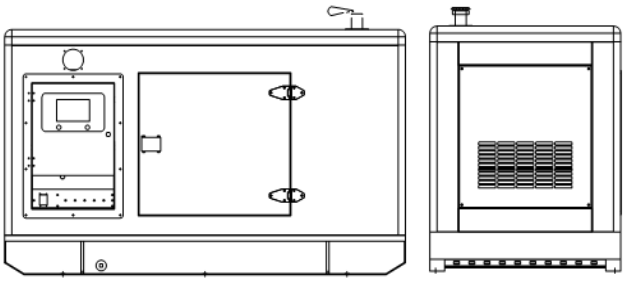


PHOTO FOR REFERENCE ONLY

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/Batery 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

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 power.(AMF)

DSE5210

DSE5220

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

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
• Coolant heater • Lubericant Oil heater	• Space heater • AVR PMG with regulator • Anti-damp and anti-corrosion treatment • Anti-condensation heater	• Tools with the machine	• Low fuel level alarm • Automatic fuel feeding system	• Super silent (65-68Dba@7m) • Normal silent (75-78Dba@7m)
Lubricating System	**Exhaust Gas System**	**Cooling System**	**Control Panel**	**Output Voltage**
•Oil with the machine	• Protection board from hotness • Low frequency silencer	• Front heat protection • 50℃ radiator • Coolant(-30℃)	• Remote controller • Auto-paralleling control panel • Auto Transfer /changeover Switch (ATS)	• 440/254V • 416/240V • 220/127V • 208/120V

Circuit Breaker

Paralleling/synchronizing System

ATS

Super silent canopy

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