



Genset

Model	JHY-50GF
Voltage	277/480V
Frequency&Speed	60HZ 1800RPM
Prime Power	50kW/62kVA
Standby Power	54kW/68kVA

General Engine Data

Main technical parameters

Number of cylinders	4
Configuration	Vertical, in-line
Aspiration	Normally Aspirated
Combustion system	Direct injection
Compression ratio	17.5:1
Bore	108 mm
Stroke	115 mm
Displacement	4.214 L
Rotation	Counterclockwise (viewed from the flywheel end)
Firing order (viewed from the belt pulley end)	1-3-4-2
Dry weight (without radiator)	420 kg
Wet weight (without radiator)	450 kg

Overall dimensions

Length (from front end of radiator to rear end of air filter)	1298 mm
Width	732 mm
Height (with radiator and mounting support)	999 mm

Centre of gravity (dry engine, with the center of the rear end face of the flywheel shell as the origin)

From the rear end face of the flywheel	387 mm
Height relative to the center of the crankshaft	140 mm

Fuel consumption

Note: The density of diesel is 0.835 kg/L.

Load condition	1800 r/min	
	g/(kW·h)	L/h
Standby	219.5	15.9
Prime	218.0	14.4
75% prime	226.6	11.2
50% prime	245.9	8.1

- Engine: Yuchai YC4D80Z-D20
- Alternator: Stamford/Leroy Somer /Hengsheng
- Controller: DeepSea/SmartGen /DEIF/ComAp

Centerline deviation relative to the crankshaft center gravity

-9 mm

Moments of rotation inertia

Engine	1.068 kg·m ²
Flywheel	0.89 kg·m ²

Performance rating

Speed droop	≤3 %
Steady state speed band	≤0.5 %

Test conditions

Ambient temperature	25 °C
Atmospheric pressure	100 kPa
Relative humidity	30 %
Max. operating intake resistance	≤5 kPa
Exhaust backpressure limit	≤10 kPa
Fuel temperature (fuel inlet pump)	38±2 °C

Attention: Unless otherwise explicitly specified, all parameter data are measured under standard test condition as above. If the engine is operated under other test conditions rather than the test condition above, it shall be adjusted properly according to the actual environment. Contact the Yuchai Technical Service Department for details.

Electric system

Type	Negative ground
Charger	
Voltage	28V/14V
Output current	27A/35A

Starter

Type	Electric start, 1
Voltage	24V/12V
Power	5 kW/3.7 kW
Number of teeth of flywheel	130
Number of teeth of starter	11

Cooling system

Total coolant capacity.....	22 L
Engine coolant capacity.....	7.35L
Radiator coolant capacity.....	12 L
Pipeline coolant capacity.....	2 L
Engine max. outlet coolant temperature.....	97℃
Pressure difference between inlet and outlet of water pump (max. hydrostatic head).....	(60~70) kPa
Thermostat operation temperature	
Initial open.....	(70±2)℃
full open.....	(80±2)℃
Max. coolant temperature rise:	
-Standby power.....	8℃
-Prime power.....	7℃

Radiator

Cooling area.....	24m ²
Dry weight.....	60kg
Core material.....	Aluminium
Number of lines.....	/
Density of core.....	13 cooling fins/inch
Width of core.....	560 mm
Height of core.....	560 mm
Min. pressure of pressure cap.....	(50±5)kPa
Coolant resistance limit.....	15 kPa

Coolant pump

Rotation speed.....	1939r/min
Drive mode.....	Pulley driven

Fan

Diameter.....	480 mm
Drive ratio.....	1.29:1
Material.....	Steel

Alternator

Pole No.	4-Pole
Exciter Type	Single bearing, Brushless, Self-excited
Power factor	0.8
Voltage adjust range	≤5%
Insulation Grade	H
Protection Grade	IP23/22
Phase / wire	3 phase 4 wires

Intake system

Air filter

Max. intake resistance:	
-Clean air filter.....	3.5 kPa
-Dirty air filter.....	5 kPa
-Air filter type.....	Dry-type, filter cartridge of paper

Inclination

Transverse indination (volume of engine oil sump: 11 L)	±10°
longitudinal indination (volume of engine oil sump: 11 L)	±10°

Fuel system

Injection system..... Mechanical pump + electronic governor

Injector

Type.....	Mechanical
Injector opening pressure	(23~24 MPa

Fuel pump

Drive mode.....	Gear driven
Fuel delivery pump flow @1,800 rpm	0.3 L/min
Max. fuel inlet temperature limit.....	45℃
Allowed fuel inlet pressure of front end of fuel delivery pump (absolute pressure).....	(35~100) kPa
Maximum fuel return pressure of fuel pump	20 kPa

Fuel filter

Rated flow.....	0.8 L/min
Max. original resistance	7kPa
Filter efficiency:	
For particles of 25μm	96 %
For particles of 10 μm.....	85 %

- ✧ NEMAMG1.JIANGHAO,and ANSI standards compliance for temperature rise and motor starting.
- ✧ Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- ✧ Sustained short-circuit current enabling down stream circuit breakers to trip without collapsing the generator field.
- ✧ Self-ventilated and dripproof construction.
- ✧ Superior voltage waveform from two-thirds Pitch windings and skewed stator.
- ✧ Digital solid-state.volts-per-hertz voltage Regulator with +1% no-load to full-load regulation.

Control Panel



The control module gives digital readouts of:

Generator voltage;
Output frequency;
Engine speed;
Battery voltage;
Engine hours run.



Dimension:1850*750*1200mm

Weight:950kg



Dimension:3000*1100*1700mm

Weight:1850kg

Fuel Tank Capacity:280L

The **control panel** is an Digital Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

Monitoring an extensive number of engine parameters, the module will display warnings, shutdown and engine status information on the back-lit LCD screen and illuminated LEDs.

The control module has indicators for failure information:

Over speed/Low speed,
Emergency stop
Low oil pressure;
High water temperature
Failure to start
Battery charger failure

Automatic shutdown occurs under:

Low engine oil pressure;
High engine water temperature;
Over speed/Low speed;
Failure to start after three attempts.

Electrical system

- Maintenance-free and anti-explosion battery
- Standard breaker
- ABB breaker (optional)
- ATS (optional)
- Battery charger (optional)
- GMS monitoring (optional)

Packing

- Wrapping film packaging
- Tray packaging
- plywood box packaging

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