



Genset

| | |
|-----------------|--------------|
| Model | JHY-86GF |
| Voltage | 277/480V |
| Frequency&Speed | 60HZ 1800RPM |
| Prime Power | 86kW/107kVA |
| Standby Power | 95kW/118kVA |

- Engine: Yuchai YC4D140-D33
- Alternator: Stamford/Leroy Somer
/Hengsheng
- Controller: DeepSea/SmartGen
/DEIF/ComAp

General Engine Data

Main technical parameters

| | |
|--|---|
| Number of cylinders | 4 |
| Configuration | Vertical, in-line |
| Aspiration | Turbocharged, air-air intercooled |
| Combustion system | Direct injection |
| Compression ratio | 16.7:1 |
| Bore | 108 mm |
| Stroke | 115 mm |
| Displacement | 4.21 L |
| Rotation | Counterclockwise (viewed from the flywheel end) |
| Firing order (viewed from the belt pulley end) | 1-3-4-2 |
| Dry weight (without radiator) | 450 kg |
| Wet weight (without radiator) | 480 kg |

Overall dimensions

| | |
|---|---------|
| Length (from front end of radiator to rear end of air filter) | 1403 mm |
| Width | 740 mm |
| Height (with radiator and mounting support) | 1003 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 | 230 | 28.9 |
| Prime | 235 | 26.7 |
| 75% prime | 247 | 20.0 |
| 50% prime | 253 | 14.5 |

Centerline deviation relative to the crankshaft center gravity

.....9 mm

Moments of rotation inertia

| | |
|----------|-------------------------|
| Engine | 1.068 kg·m ² |
| Flywheel | 0.91 kg·m ² |

Performance rating

| | |
|-------------------------|--------|
| Speed droop | ≤0.5 % |
| 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 |
| Output current | 55A |
| Starter | |
| Type | Electric start, 1 |
| Voltage | 24V |
| Power | 5 kW |
| Number of teeth of flywheel | 130 |
| Number of teeth of starter | 11 |

Cooling system

| | |
|---|---------|
| Total coolant capacity..... | 30L |
| Engine coolant capacity..... | 15L |
| Radiator coolant capacity..... | 12L |
| Pipeline coolant capacity..... | 3L |
| Engine max. outlet coolant temperature..... | 97℃ |
| Thermostat operation temperature | |
| Initial open..... | (80±2)℃ |
| full open..... | ≤90℃ |
| Max. coolant temperature rise: | |
| -Standby power..... | 8℃ |
| -Prime power..... | 7℃ |

Radiator

| | |
|--------------------------------------|----------------------|
| Cooling area..... | 34.2m ² |
| Radiator intercooler dry weight..... | 70.5kg |
| Core material..... | Aluminum |
| Number of lines..... | / |
| Density of core..... | 13 cooling fins/inch |
| Width of core..... | 680 mm |
| Height of core..... | 600 mm |
| Min. pressure of pressure cap..... | (50±5)kPa |
| Coolant resistance limit..... | 15 kPa |

Intercooler

| | |
|---------------------------|---------------------|
| Cooling area..... | 18.5 m ² |
| Core material..... | Aluminum |
| Number of lines..... | / |
| Width of core..... | 570 mm |
| Height of core..... | 530 mm |
| Air resistance limit..... | 12.8 kPa |

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 | 2.5 kPa |
| -Dirty air filter | 5 kPa |
| -Air filter type..... | Dry-type, filter cartridge of paper |

Inclination

| | |
|--|------|
| Transverse inclination (volume of engine oil sump: 11 L) | ±10° |
| Longitudinal inclination (volume of engine oil sump: 11 L) | ±10° |

Fuel system

Injection system.....High pressure common rail

Injector

Type.....Electronically controlled, with multiple jets
Injector opening pressure.....Electronically controlled

Fuel pump

| | |
|---|--------------|
| Drive mode | Gear driven |
| Fuel delivery pump flow @1800 rpm | 1.2 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

Pre- filter

| | |
|--|---------|
| Rated flow..... | 5 L/min |
| Max. original resistance..... | ≤ 7 kPa |
| Water separation efficiency at the rated flow..... | ≥95 % |

- ✧ 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:2200*850*1200mm

Weight:1000kg



Dimension:3300*1300*1800mm

Weight:2100kg

Fuel Tank Capacity:360L

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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