YC6TH1320-D31

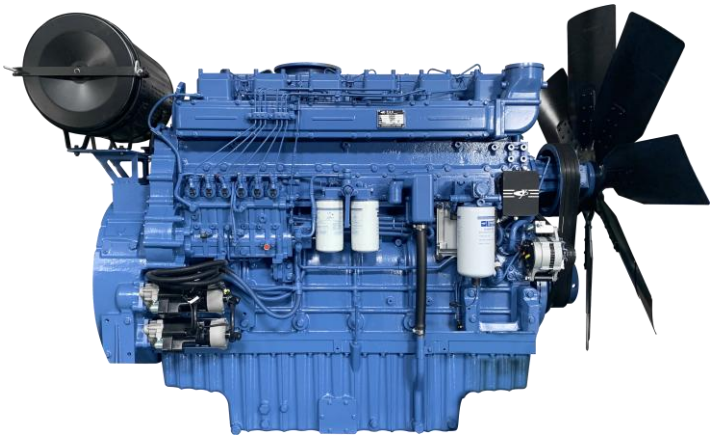
Ver. No.: 2021V01 Im plemented on 2021-12-08

Prime power: 880 kW @ 1500 r/min

Standby power: 968kW @ 1500 r/min

Emission standard to be followed:

GB 20891-2014 Stage Ⅲ



Introduction of engine model

YC6TH-D31 series engine is independently developed by Yuchai in combination with the advanced technology of large engines at home and abroad. It is equipped with electric EUP system, four-valve, turbocharger and intercooler, and is optimized and verified through Yuchai's advanced combustion development technology, featuring energy saving, high efficiency, high reliability, strong loading capacity and good maintainability.

Product features

- Four-valve design with sufficient air intake, intermediate injector with full fuel-air mixing and sufficient combustion.
- Mature turbocharger and intercooler technology, ensuring the sufficient and stable air intake of each load, and wide range of economic fuel consumption.
- EUP system, good atomization, sufficient combustion, high power density and light weight.
- Compliance with China III emission standard, large potential for emission upgrade.
- The cylinder block of netted reinforcement structure, and crankshaft connecting rod of high strength alloy, ensuring high reliability.
- The parts with good versatility, high degree of serialization, one-cylinder and one-cover structure, and low comprehensive maintenance costs.

Product service

- Service: Yuchai has established the service network that has the largest scale, the smallest service radius, the longest “repair, return, replacement” mileage and the shortest response time in the industry, and has established 49 offices around the world, including 14 overseas offices covering Europe, Africa and South America and so on. In addition, Yuchai has established 108 overseas service agents, more than 3,000 service stations, more than 5,000 parts sales outlets and more than 100 electronic control service engineers available to provide satisfactory service for customers.
- 24h global service hotline: +86 95098.

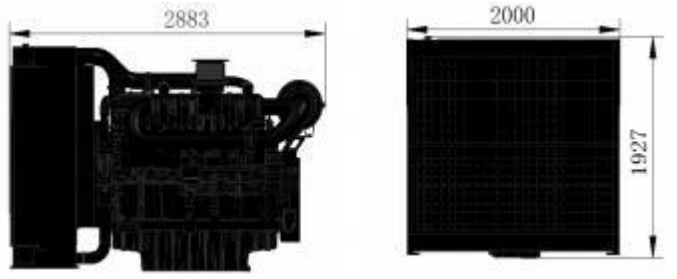
Engine speed	Work type	Standard alternator set output		Engine power			
				Total power		Net power	
r/min		kVA	kW	kW	Ps	kW	Ps
1500	Prime	1000	800	880	1224	820	1115
	Standby	1125	900	968	1347	910	1238

✧ Note:

1. Prime Power: refers to the prime power (PRP) of ISO 8528. When the engine is maintained according to Yuchai maintenance interval and method, it refers to the maximum power that is output continuously by the engine annually for the variable loads without any limit on the engine running time. The average output power may not exceed 70% of the prime power within 24h.
2. Standby Power: refers to the emergency standby power (ESP) of ISO 8528. When the engine is maintained according to Yuchai maintenance interval and method and the public power grid breaks down or under test conditions, it refers to the maximum power of a variable series when the engine runs for 200 h per year. The average output power may not exceed 70% of the standby power within 24h.
3. The engine power data of the above table are measured under the conditions specified in ISO 8528-1 and ISO 3046.
4. The power output of the alternator set is calculated from the assumed alternator efficiency and is for reference only.
5. The kVA value and the kW value are converted according to the standard power factor of 0.8.
6. The above data is the latest data when it is printed, but the data may be changed after publication.

Engine load	1500 r/min	
	g/（kW•h）	L/h
Standby power	210.6	244.1
Prime power	204.7	215.7
75% prime power	200.4	158.4
50% prime power	202.5	106.7

Note: The diesel density should be 0.835kg/L.



Technical parameters

Pattern … … … … …Vertical, in-line, water-cooled, four-stroke

Air intake type.... Exhaust gas turbocharged, air-air intercooled

Combustion chamber form … … … ……Direct injection ω type

Number of cylinders - cylinder bore ×stroke... …6-175×195mm

Number of single cylinder valves … … … … … ... … … … …4

Total piston displacement … … … … … … ... … … … …28.14L

Compression ratio … … … … … … … … ... … … … ……15:1

Cylinder type… … … … … … … ... … … … Wet cylinder liner

Working order... … … … … … … … … …1—5—3—6—2—4

(facing the power output end)

Fuel supply system … … … … …… … Electronic unit pump

Lubrication method... … … … … … … ……Pressure, splash mixing

Starting mode. … … … … … … … …… … ... … …Electric start

Oil capacity... … … … … … … … … … … ... … … … … 95L

Oil-fuel ratio… … … … … … … … … ... … … … …≤0.3%

Rotation direction of crankshaft … … … ……Counter clockwise

(facing the power output end)

Minimum no-load speed… … … … … … …... (600～650)r/min

Speed control performance level.… … …... … … ISO 8528 G3

Noise Lp … … … … … … … … … ... … … … …≤103dB(A)

Total dry weight

Engine.. … … … … … … … … 3200kg

Water tank radiator … … … … … … ... … … … …396kg

The final weight and size of the engine may vary from specific configuration

Engine configuration

- **Intake system**
  - Air filter
- **Cooling system**
  - Water tank intercooler
  - Radiater (optional)
- **Electrical appliance**
  - 24V starter
  - Charge
  - Intake preheater (optional)
- **Fuel system**
  - Electronic unit pump
  - Fuel filter
- **Lubricating system**
  - Oil filter
- **Flywheel and flywheel housing**
  - SAE 18″ Flywheel
  - SAE 0# Flywheel housing
- **Documents**
  - Operation manual
  - Installation guide
  - Parts catalog

Fuel grade: Summer: GB 252-2015 premium grade or first grade 0#, ordinary diesel 10#. Winter: GB 252-2015 premium grade or first grade 0#, ordinary diesel -10#, -20#, -35#.

Oil grade: summer: 15W-40, winter: 10W-30 or other diesel engine oil of CH-4 grade not lower than GB11122-2006 according to the environment.