YC6C1520-D31

Version No.: 2018V01 Implemented on: 2018-06-20

Prime power: 1016 kW @ 1500 r/min
Standby power:1118 kW @ 1500 r/min



Introduction

YC6C1520-D31 series engine is a self-developed product by Yuchai combining the advanced technology for large engines both at home and abroad. The configurations, such as four valves, turbocharged & intercooled, and electronic governing, are adopted for it; and it is optimized and verified through the advanced combustion development technology of Yuchai, and is characterized by energy efficiency, high reliability, strong loading capability and good maintainability.

Product Features

- Electronic unit pump, four-valve structure, turbocharged & intercooled, and Yuchai combustor technologies are adopted for realizing sufficient air intake, full combustion and low fuel consumption, less emission and fast and high-quality loading.
- High-quality alloy cast iron cylinder block of reinforced grid structure with cambered surface, high-strength vermicular iron cylinder head, dual protection anti-impact cylinder gasket structure, and self-developed cooling technology for the bottom of the cylinder head are adopted, which ensure high reliability.
- The Yuchai proprietary carbon-scraping self-cleaning technology is adopted for ensuring low lubricating oil consumption.
- Electric pre-supply oil technology is adopted, which effectively protects kinematic pair and improves the service life of engine.
- The crankshaft is made of high-quality alloy steel by using all fiber extrusion forging process, and the journal and circular bead are subject to quenching heat treatment for improving wear resistance and prolonging service life.
- The structure of one head for one cylinder is adopted; maintenance window is set at the side of the engine body, which ensures easy maintenance.
- Support dual energy start.

Product Service

- Service: Yuchai has built the largest service network in the industry with the minimum service radius, the most extensive “three guarantees” and the shortest response time. 49 global offices are set up, including 14 overseas offices in Europe, Africa and South America etc. We have 108 service agents abroad, over 3,000 service stations, over 5,000 parts selling networks and over 100 electronic control service engineers assigned out to provide satisfactory services to the users.
- 24h global service hotline: +86 95098.

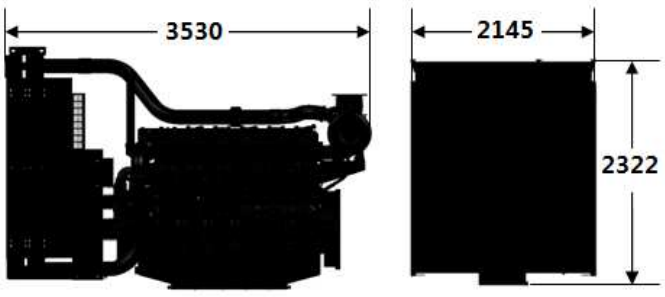
Engine speed	Application	Standard generator unit output		Engine power			
				Total power		Net power	
r/min		kVA	kW	kW	Ps	kW	Ps
1500	Prime	1125	900	1016	1381	972	1322
	Standby	1250	1000	1118	1520	1072	1458

✧ Notes:

1. Prime Power: which corresponds to the basic power (PRP) described in ISO 8528. Implement the maintenance according to the Yuchai's requirement, maximum power of variable load continuous output unlimited time. The average output power shall not exceed 70% of the prime power in every 24 hours of operation.
2. Standby Power: In correspondence with the emergency standby power (ESP) stated in ISO 8528. Implement the maintenance according to the Yuchai's requirement, maximum power at a variable load in the event of a main power network failure up to a maximum of 200 hours per year. The average output power shall not exceed 70% of the standby power in every 24 hours of operation.
3. The engine power data stated in the table is the measured performance under the condition stated in ISO 8528-1 and ISO 3046.
4. The power output of the generator unit is calculated according to the efficiency of the AC generator. Thus, it is for reference only.
5. The kVA and kW values are converted as per standard power factor 0.8.
6. The information mentioned above is the latest one, however, the relevant information may be altered after publication.

Engine load	1500 r/min	
	g/（kW·h）	L/h
Standby power	213.3	285.6
Prime power	208.2	253.3
75% prime power	223.4	203.9
50% prime power	236.1	143.6

Remarks: the diesel oil density is 0.835 kg/L.



Technical Data

Type	Vertical, in-line, water-cooled, four-stroke
Induction system	Turbocharged & air-air intercooled
Type of combustion chamber	Direct-injection reentrant ω combustion chamber
Cylinder quantity - Bore x stroke.	6-200×210mm
Number of valve per cylinder.	4
Displacement	39.58L
Compression ratio	13.5:1
Cylinder type	Wet-type cylinder sleeve
Working sequence	1-5-3-6-2-4
Fuel supply system	Electronic unit pump
Lubrication mode	Combination of pressure and splashing
Starting mode	Electronic
Engine oil capacity	（130～160）L
Engine oil and fuel consumption ratio	≤0.1%
Rotation	Anticlockwise (facing the power delivery end)
Minimum no-load speed.	(550～650) r/min
Speed-regulation grade	ISO 8528 G3
Noise *Lp*	≤101.5dB(A)
Total dry weight	
Engine	4500kg
Radiator	996kg

The final weight and sizes of the engine varies according to the specific arrangement.

Engine Arrangement

- **Air Intake System**
  Air filter
- **Cooling system**
  Radiator (Optional)
- **Electrical device**
  24 V starter
- **Fuel system**
  Electronic unit pump (meeting Grade G3 as specified in ISO 8528-5)
  Fuel Filter
- **Lubrication system**
  Engine oil filter
- **Flywheel and flywheel housing**
  SAE 18″ flywheel
  SAE 0 # flywheel housing
- **Documents**
  Operation Instruction
  Installation Guide
  Parts catalog

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

Oil brand: 15W-40 in summer; 10W-30 or other environmentally suitable diesel engine oils with the quality grade not lower than Grade CH-4 as provided in GB 11122-2006 in winter.