YC4V45Z-D20

Version No.: 2023V01 Implemented on: 2023-02-01

Prime power: 30 kW @ 1500 r/min

Standby power:33 kW @ 1500 r/min

For clients in the places where emission regulations have not been implemented yet.



Introduction

The V25 series engine is developed for the market development needs for small generator unit, naval vessel, light bus and passenger vehicle; it is a light type and is characterized by displacement of 2.5 litres;The technological achievements for modern engine, such as low eddy combustion, are adopted; the indexes, such as dynamic performance and economy, reach the foreign advanced level; such model takes the leading role of its kind domestically.

Product Features

- It is characterized by lightweight; some of parts are made lighter aluminum material; thus the weight of whole engine light.
- The main structures, such as engine body, are time-tested, ar high-quality alloy cast iron is adopted for cylinder head, whic ensures the high reliability of the whole engine.
- Low eddy combustion technology greatly improves engi economy.
- G3 performance requirements for generator set are met.

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. Besides, 108 overseas service agents, more than 3,000 service stations and 5,000 sales networks of fittings are established, providing the users with satisfying and considerate services.
- 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	30	24	30	41	28	38
	Standby	33	26.4	33	45	31	42

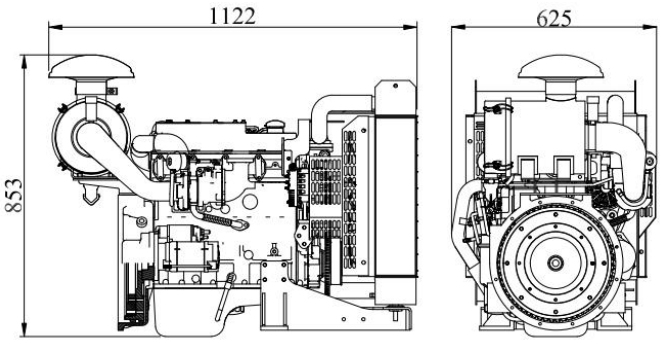
✧ **Notes:**

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.

   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.
2. The engine power data stated in the table is the measured performance under the condition stated in ISO 8528-1 and ISO 3046.
3. The power output of the generator unit is calculated according to the efficiency of the AC generator. Thus, it is for reference only.
4. The kVA and kW values are converted as per standard power factor 0.8.
5. The information mentioned above is the latest one, however, the relevant information may be altered after publication.

Engine load	1800 r/min	
	g/（kW·h）	L/h
Standby power	230	9.1
Prime power	225	8.1
75% prime power	230	6.2
50% prime power	245	4.4

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



Technical Data

Type	Vertical, in-line, water-cooled, four-stroke
Induction system	Turbocharged
Type of combustion chamber	Direct-injection reentrant ω combustion chamber
Cylinder quantity - Bore x stroke.	4-89×100mm
Number of valve per cylinder.	2
Displacement	2.5L
Compression ratio	17.5:1
Cylinder type	Dry-type cylinder sleeve
Working sequence	1-3-4-2
Fuel supply system	Mechanical pump
Lubrication mode	Combination of pressure and splashing
Starting mode	Electric
Engine oil capacity	6.5L (dry-type engine)
Engine oil and fuel consumption ratio	≤0.3%
Rotation	Anticlockwise (facing the power delivery end)
Minimum no-load speed.	(700±25)r/min
Speed-regulation grade	ISO 8528 G3
Total dry weight	
Engine	250kg
Radiator	30kg

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

Engine Arrangement

- **Air Intake System**
  Air filter
- **Cooling system**
  Radiator
- **Electrical device**
  24V or 12V electrical system
  Inlet preheater (optional)
- **Fuel system**
  Mechanical pump + mechanical governor (or mechanical governor)
  Fuel filter
- **Lubrication system**
  Engine oil filter
- **Flywheel and flywheel housing**
  SAE 7.5″ flywheel
  SAE 4# 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.