



4Z2.3-G12

◎ Power

Engine Speed rpm	Type of Operation	Engine Power	Generator Power	
		kW	kW	kVA
1800	Prime Power	21	16	20
	Standby Power	23	18	22.5

-. The engine performance is as per GB/T2820

-. Ratings are based on GB/T1147.1.

→**Prime Power:** Power output available with varying load for unlimited time. The permissible average power output over 24 hours of operation shall not exceed 80% of the prime power rating.

→**Standby Power:** Power output available in the duration of an emergency outage or under test conditions, Maximum operation time is 200 hours per year. The permissible average power output over 24 hours of operation shall not exceed 80% of the standby power rating.

Overload operation is not allowed

◎ SPECIFICATIONS

- Engine Model 4Z2.3-G12
- Engine Type In-line,4strokes, water-cooled
- Combustion type Direct injection
- Cylinder Type Wet liner
- Number of cylinders 4
- Bore × stroke 85× 100 mm
- Displacement 2.3L
- Compression ratio 18 : 1
- Firing order 1-3-4-2
- Injection timing 14-17°
- Dry weight 260 kg
- Dry weight 919×565×760mm
(L×W×H)
- Rotation Counter clockwise viewed from
Flywheel

◎ FUEL CONSUMPTION

- Power L/h (1800r/min)
- 25% 1.72
- 50% 2.69
- 75% 3.79
- 100% 4.92
- 110% 5.53

◎ FUEL SYSTEM

- Injection pump KangDa
- Governor Electric type
- Feed pump Mechanical type
- Injection nozzle Multi hole type
- Opening pressure 24MPa

- Fly wheel housing SAE 4#
- Fly wheel SAE 7.5# (tooth number 109)

- Fuel filter Full flow, cartridge type
- Used fuel Diesel fuel oil

◎ MECHANISM

- Type Overhead valve
- Number of valve Intake 1, exhaust 1 per cylinder
- Valve lashes at cold Intake 0.35mm
Exhaust 0.45mm

◎ LUBRICATION SYSTEM

- Lub. Method Fully forced pressure feed type
- Oil pump Gear type driven by camshaft
- Oil filter Full flow, cartridge type
- Oil pan capacity High level 10 L
Low level 8 L
- Angularity limit Front down 25°
Front up 35°
Side to side 35°

◎ VALVE TIMING

- | | Opening | Close |
|-----------------|----------|----------|
| ○ Intake valve | 12° BTDC | 38° ABDC |
| ○ Exhaust valve | 50° BBDC | 14° ATDC |

- Lub. Oil Refer to Operation Manual

◎ COOLING SYSTEM

- Water capacity 2.3L
(engine only)
- Lid Min. pressure 70kPa
- Water pump Centrifugal type driven by belt
- Water pump Capacity 28L/min (1800r/min)
- Thermostat Wax-pellet type
Opening temp. 72°C
Full open temp. 82°C
- Cooling fan Blower type, plastic
400 mm diameter, 7 blades
Power consumption 3.5 kW
- The maximum temp. of coolant in prime/ Standby power 104/100°C

◎ ENGINEERING DATA

- Heat rejection to coolant 10.2 kcal/sec (1800r/min)
- Heat rejection to intercooler
- Air flow 2.2m³/min (1800r/min)
- Exhaust gas flow 7.3m³/min (1800r/min)
- Exhaust gas temp. 480 °C
- Max. permissible restrictions 3 kPa initial
Intake system 4 kPa final
Exhaust system 10 kPa max
- intercooler permissible restrictions

◎ ELECTRICAL SYSTEM

- Charging generator 12V×70A
- Voltage regulator Built-in type IC regulator
- Starting motor 12V×3.8kW
- Battery Voltage 12V
- Battery Capacity 110~120 AH

