



4Z3.2-G12

◎ Power

Engine Speed	Type of Operation	Engine Power	Generator Power	
rpm		kW	kW	kVA
1800	Prime Power	38	32	40
	Standby Power	42	35	44

-. 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	4Z3.2-G12
○ Engine Type	In-line,4strokes, water-cooled
○ Combustion type	Direct injection
○ Cylinder Type	Wet liner
○ Number of cylinders	4
○ Bore × stroke	98× 105 mm
○ Displacement	3.2L
○ Compression ratio	18 : 1
○ Firing order	1-3-4-2
○ Injection timing	14-17°
○ Dry weight	270 kg
○ Dry weight (L×W×H)	916×551×733mm
○ Rotation	Counter clockwise viewed from Flywheel

◎ FUEL CONSUMPTION

○ Power	L/h (1800r/min)
25%	2.9
50%	4.25
75%	5.84
100%	7.71
110%	8.3

◎ 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 120)

- 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 0.40mm
Exhaust 0.65mm

◎ 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 | 15° BTDC | 30° ABDC |
| ○ Exhaust valve | 45° BBDC | 13° ATDC |

- Lub. Oil Refer to Operation Manual

◎ COOLING SYSTEM

- Water capacity 3.2L
(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
450 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 18.6 kcal/sec (1800r/min)
- Heat rejection to intercooler
- Air flow 4.01m³/min (1800r/min)
- Exhaust gas flow 10.6m³/min (1800r/min)
- Exhaust gas temp. 550 °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

