# 4Z3.0-G21

◎ **Power**

| Engine Speed | Type of Operation | Engine Power | Generator Power | |
|---|---|---|---|---|
| rpm | | kW | kW | kVA |
| 1500 | Prime Power | 27 | 20 | 25 |
| | Standby Power | 30 | 22 | 27.5 |
| 1800 | Prime Power | 30 | 24 | 30 |
| | Standby Power | 33 | 26.4 | 33 |

-. 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 | 4Z3.0-G21 |
| ○ Engine Type | In-line,4strokes, water-cooled |
| ○ Combustion type | Direct injection |
| ○ Cylinder Type | Wet liner |
| ○ Number of cylinders | 4 |
| ○ Bore × stroke | 95× 105 mm |
| ○ Displacement | 3.0L |
| ○ Compression ratio | 18 : 1 |
| ○ Firing order | 1-3-4-2 |
| ○ Injection timing | 14-17° |
| ○ Dry weight | 265 kg |
| ○ Dry weight (L×W×H) | 916×551×733mm |

## ◎ FUEL CONSUMPTION

| ○ Power | L/h（1500r/min） | L/h（1800r/min） |
|---|---|---|
| 25% | 2.0 | 2.05 |
| 50% | 2.95 | 3.25 |
| 75% | 4.13 | 4.6 |
| 100% | 5.76 | 6.13 |
| 110% | 6.23 | 6.73 |

## ◎ FUEL SYSTEM

| | |
|---|---|
| ○ Injection pump | KangDa |
| ○ Governor | Electric type |
| ○ Feed pump | Mechanical type |
| ○ Injection nozzle | Multi hole type |

| | |
|---|---|
| ○ Rotation | Counter clockwise viewed from Flywheel |
| ○ Fly wheel housing | SAE 4# |
| ○ Fly wheel | SAE 7.5#（tooth number 120） |

## ◎ MECHANISM

| | |
|---|---|
| ○ Type | Overhead valve |
| ○ Number of valve | Intake 1, exhaust 1 per cylinder |
| ○ Valve lashes at cold | Intake 0.40mm |
| | Exhaust 0.65mm |

## ◎ VALVE TIMING

| | Opening | Close |
|---|---|---|
| ○ Intake valve | 15° BTDC | 30° ABDC |
| ○ Exhaust valve | 45° BBDC | 13° ATDC |

## ◎ COOLING SYSTEM

| | |
|---|---|
| ○ Water capacity (engine only) | 3.0L |
| ○ Lid Min. pressure | 70kPa |
| ○ Water pump | Centrifugal type driven by belt |
| ○ Water pump Capacity | 25L/min （1500r/min） |
| | 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 concumption 3.5 kW |
| ○ Opening pressure | 24MPa |
| ○ Fuel filter | Full flow, cartridge type |
| ○ Used fuel | Diesel fuel oil |

## ◎ 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° |
| ○ Lub. Oil | Refer to Operation Manual |

## ◎ ENGINEERING DATA

| | |
|---|---|
| ○ Heat rejection to coolant | 11.7 kcal/sec（1500r/min） |
| | 14.1 kcal/sec（1800r/min） |
| ○ Heat rejection to intercooler | |
| ○ Air flow | 2.3m3/min （1500r/min） |
| | 2.7m3/min （1800r/min） |
| ○ Exhaust gas flow | 8.7m3/min（1500r/min） |
| | 8.7m3/min（1800r/min） |
| ○ Exhaust gas temp. | 550 °C |
| ○ Max. permissible restrictions | 3 kPa initial |
| Intake system | 4 kPa final |
| Exhaust system | 10 kPa max |

○ The maximum temp. of coolant in prime/ Standby power 104/100℃

○ 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