



4ZT3.5-G21

◎ Power

| Engine Speed rpm | Type of Operation | Engine Power | Generator Power | |
|---------------------|----------------------|--------------|-----------------|------|
| | | kW | kW | kVA |
| 1500 | Prime Power | 49 | 40 | 50 |
| | Standby Power | 54 | 44 | 55 |
| 1800 | Prime Power | 60 | 50 | 62.5 |
| | Standby Power | 66 | 55 | 69 |

-. 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 | 4ZT3.5-G21 |
| ○ Engine Type | In-line,4strokes, water-cooled Turbo charged |
| ○ Combustion type | Direct injection |
| ○ Cylinder Type | Wet liner |
| ○ Number of cylinders | 4 |
| ○ Bore × stroke | 105× 115 mm |
| ○ Displacement | 3.5L |
| ○ Compression ratio | 18 : 1 |
| ○ Firing order | 1-3-4-2 |
| ○ Injection timing | 14-17° |
| ○ Dry weight | 320 kg |
| ○ Dry weight (L×W×H) | 848×608×909mm |

◎ FUEL CONSUMPTION

| ○ Power | L/h (1500r/min) | L/h (1800r/min) |
|---------|--------------------|-----------------|
| 25% | 3.39 | 4.09 |
| 50% | 5.51 | 6.31 |
| 75% | 7.8 | 8.63 |
| 100% | 10.23 | 11.0 |
| 110% | 12.0 | 14.45 |

◎ 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 3#
- Fly wheel SAE 11.5# (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 3.5L
(engine only)
- 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
490 mm diameter, 7 blades
Power consumption 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 24 kcal/sec (1500r/min)
29.3kcal/sec (1800r/min)
- Heat rejection to intercooler
- Air flow 5.16m³/min (1500r/min)
6.31m³/min (1800r/min)
- Exhaust gas flow 11.6m³/min (1500r/min)
11.6m³/min (1800r/min)
- Exhaust gas temp. 480 °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°C

○ 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

