# SC7H250D2

## Used for 166kVA generator

### ◎ POWER RATING

| Engine Speed | Type of | Engine Power | |
|---|---|---|---|
| rpm | Operation | kW | Ps |
| 1500 | Prime Power | 168 | 228 |
| | Standby Power | 185 | 252 |

-. The engine performance is as per GB/T2820.

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

---Prime power is available for an unlimited number of hours per year in a variable load application. The permissible average power output over 24 hours of operation shall not exceed 80% of the prime power rating.

---Standby power is available in the event of a utility power outage or under test conditions for up to 200 hours of operation per year. The permissible average power output over 24 hours of operation shall not exceed 80% of the standby power rating.

### ◎ SPECIFICATIONS

| | |
|---|---|
| O Engine Model | SC7H250D2 |
| O Engine Type | In-line,4 strokes, water-cooled<br>4 valves, Turbo charged<br>air-to-air intercooled |
| O Combustion type | Direct injection |
| O Cylinder Type | Dry liner |
| O Number of cylinders | 6 |
| O Bore × stroke | 105(4.14) × 124(4.89) mm(in.) |
| O Displacement | 6.44(393) lit.(in3) |
| O Compression ratio | 16 : 1 |
| O Firing order | 1-5-3-6-2-4 |
| O Injection timing | 12°BTDC |
| O Dry weight | Approx. 600 kg (1322.8 lb) |
| O Dimension (L×W×H) | 1343×741×1267 mm<br>(52.9×29.2×49.9 in.) |
| O Rotation | Counter clockwise viewed from Flywheel |

### ◎ FUEL CONSUMPTION

| O Power | lit/hr |
|---|---|
| 25% | 10.7 |
| 50% | 19.9 |
| 75% | 29.7 |
| 100% | 39.7 |
| 110% | 43.7 |

### ◎ FUEL SYSTEM

| | |
|---|---|
| O Injection pump | Longkou in-line “P” type |
| O Governor | Electric type |
| O Feed pump | Mechanical type |
| O Injection nozzle | Multi hole type |
| O Opening pressure | 250 kg/cm2 (3556 psi) |
| O Fuel filter | Full flow, cartridge type |

| | |
|---|---|
| ○ Fly wheel housing | SAE NO.3 |
| ○ Fly wheel | SAE NO.11.5 |

## ◎ MECHANISM

| | |
|---|---|
| ○ Type | Over head valve |
| ○ Number of valve | Intake 2, exhaust 2 per cylinder |
| ○ Valve lashes at cold | Intake 0.25mm (0.0099 in.) |
| | Exhaust 0.50mm (0.0197 in.) |

## ◎ VALVE TIMING

| | Opening | Close |
|---|---|---|
| ○ Intake valve | 20.9° BTDC | 44.9° ABDC |
| ○ Exhaust valve | 51.7° BBDC | 11.7° ATDC |

## ◎ COOLING SYSTEM

| | |
|---|---|
| ○ Cooling method | Fresh water forced circulation |
| ○ Water capacity (engine only) | 9.6 liters (2.5 gal.) |
| ○ Pressure system | Max. 0.5 kg/cm2 ( 7.11 psi) |
| ○ Water pump | Centrifugal type driven by belt |
| ○ Water pump Capacity | 170liters ( 44.9 gal.)/min |
| | at 1,500 rpm (engine) |
| ○ Thermostat | Wax–pellet type<br>Opening temp. 82°C<br>Full open temp. 95°C |
| ○ Cooling fan | Blower type, plastic |
| | 660 mm diameter, 10 blades |
| ○ Cooling air flow | 4.93 $m^3$ /s |

| | |
|---|---|
| ○ Used fuel | Diesel fuel oil |

## ◎ LUBRICATION SYSTEM

| | |
|---|---|
| ○ Lub. Method | Fully forced pressure feed type |
| ○ Oil pump | Gear type driven by crankshaft |
| ○ Oil filter | Full flow, cartridge type |
| ○ Oil pan capacity | High level 17.5 liters ( 4.62 gal.)<br>Low level 15 liters ( 3.96 gal.) |
| ○ Angularity limit | Front down 25 deg.<br>Front up 35 deg. |
| | Side to side 35 deg. |
| ○ Lub. Oil | Refer to Operation Manual |

## ◎ ENGINEERING DATA

| | |
|---|---|
| ○ Water flow | 170 liters/min @1,500 rpm |
| ○ Heat rejection to coolant | 16.9 kcal/sec @1,500 rpm |
| ○ Heat rejection to CAC | 10.6 kcal/sec @1,500 rpm |
| ○ Air flow | 11.8 m3/min @1,500 rpm |
| ○ Exhaust gas flow | 26 m3/min @1,500 rpm |
| ○ Exhaust gas temp. | 600 °C @1,500 rpm |
| ○ Max. permissible restrictions | |
| Intake system | 3 kPa initial<br>6 kPa final |
| Exhaust system | 8 kPa max. |
| ○ Max. permissible altitude | 2,000 m |
| ○ Fan power | 6 kW |

## ◎ ELECTRICAL SYSTEM

| | |
|---|---|
| ○ Charging generator | 28V×55A |
| ○ Voltage regulator | Built-in type IC regulator |
| ○ Starting motor | 24V×6kW |
| ○ Battery Voltage | 24V |
| ○ Battery Capacity | 150 AH |

## ◆ CONVERSION TABLE

| | |
|---|---|
| in. = mm × 0.0394 | lb/ft = N.m × 0.737 |
| PS = kW × 1.3596 | U.S. gal = lit. × 0.264 |
| psi = kg/cm2 × 14.2233 | kW = 0.2388 kcal/s |
| $in^3$ = lit. × 61.02 | lb/PS.h = g/kW.h × 0.00162 |
| hp = PS × 0.98635 | cfm = m3/min × 35.336 |
| lb = kg × 2.20462 | |




