

SC4H180D2

Used for 120kVA generator



◎ POWER RATING

Engine Speed rpm	Type of Operation	Engine Power	
		kW	Ps
1500	Prime Power	120	163
	Standby Power	132	180

- 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

○ Engine Model	SC4H180D2
○ Engine Type	In-line,4 strokes, water-cooled 4 valves, Turbo charged air-to-air intercooled
○ Combustion type	Direct injection
○ Cylinder Type	Dry liner
○ Number of cylinders	4
○ Bore × stroke	105(4.14) × 124(4.89) mm(in.)
○ Displacement	4.3(262.4) lit.(in3)
○ Compression ratio	16 : 1
○ Firing order	1-3-4-2
○ Injection timing	11°BTDC
○ Dry weight	Approx. 450kg (992.1 lb)
○ Dimension (L×W×H)	1053×717×1158 mm (41.5×28.3×45.6 in.)
○ Rotation	Counter clockwise viewed from Flywheel

◎ FUEL CONSUMPTION

○ Power	lit/hr
25%	7.3
50%	14.4
75%	21.4
100%	28.6
110%	31.7

◎ FUEL SYSTEM

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

- Fly wheel housing SAE NO.3
- Fly wheel SAE NO.11.5
- Used fuel Diesel fuel oil

◎ **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 6.8 liters (1.8 gal.)
(engine only)
- Pressure system Max. 0.5 kg/cm² (7.11 psi)
- Water pump Centrifugal type driven by belt
- Water pump Capacity 155 liters (40.9 gal.)/min
at 1,500 rpm (engine)
- Thermostat Wax–pellet type
Opening temp. 82°C
Full open temp. 95°C
- Cooling fan Blower type, plastic
620 mm diameter, 10 blades
- Cooling air flow 3.52 m³ /s

◎ **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 13 liters (3.4 gal.)
Low level 11 liters (2.9 gal.)
- Angularity limit Front down 25 deg.
Front up 35 deg.
Side to side 35 deg.
- Lub. Oil Refer to Operation Manual

◎ **ENGINEERING DATA**

- Water flow 155 liters/min @1,500 rpm
- Heat rejection to coolant 16.8 kcal/sec @1,500 rpm
- Heat rejection to CAC 8.7 kcal/sec @1,500 rpm
- Air flow 8.1 m³/min @1,500 rpm
- Exhaust gas flow 18.2 m³/min @1,500 rpm
- Exhaust gas temp. 600 °C @1,500 rpm
- Max. permissible restrictions
Intake system 3 kPa initial
6 kPa final
Exhaust system 6 kPa max.
- Max. permissible altitude 2,000 m
- Fan power 5 kW

◎ ELECTRICAL SYSTEM

- Charging generator 24V×55A
- Voltage regulator Built-in type IC regulator
- Starting motor 24V×4.5kW
- Battery Voltage 24V
- Battery Capacity 120 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
- in³ = lit. × 61.02 lb/PS.h = g/kW.h × 0.00162
- hp = PS × 0.98635 cfm = m³/min × 35.336
- lb = kg × 2.20462

