SC4H180D2

Used for 120kVA generator

◎ POWER RATING

Engine Speed	Type of	Engine Power	
rpm	Operation	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

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

◎ FUEL CONSUMPTION

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

◎ 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)	6.8 liters (1.8 gal.)
○ 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 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 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
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	



