



## Model:SC4H180D2

### ◎ POWER RATING

Engine Speed	Type of	Gross Engine Output	Net Engine Output
rpm	Operation	kW	kW
1500	Prime Power	120	114
	Standby Power	132	126

-. 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

### ◎ FUEL CONSUMPTION

○ Power	lit/hr
25%	7.3
50%	14.4
75%	21.4
100%	28.6
110%	31.7
<b>◎ FUEL SYSTEM</b>	
○ Injection pump	Longkou in-line “P” type
○ Governor	Electric type
○ Feed pump	Mechanical type
○ Injection nozzle	Multi hole type
○ Opening pressure	250 kg/cm <sup>2</sup> (3556 psi)



	Flywheel		○ Fuel filter	Full flow, cartridge type
○ Fly wheel housing	SAE NO.3		○ Used fuel	Diesel fuel oil
○ Fly wheel	SAE NO.11.5			
<b>◎ MECHANISM</b>			<b>◎ LUBRICATION SYSTEM</b>	
○ Type	Over head valve		○ Lub. Method	Fully forced pressure feed type
○ Number of valve	Intake 2, exhaust 2 per cylinder		○ Oil pump	Gear type driven by crankshaft
○ Valve lashes at cold	Intake 0.25mm (0.0099 in.)		○ Oil filter	Full flow, cartridge type
	Exhaust 0.50mm (0.0197 in.)		○ Oil pan capacity	High level 13 liters ( 3.4 gal.) Low level 11 liters ( 2.9 gal.)
<b>◎ VALVE TIMING</b>			○ Angularity limit	Front down 25 deg. Front up 35 deg. Side to side 35 deg.
	<b>Opening</b>	<b>Close</b>		
○ Intake valve	20.9° BTDC	44.9° ABDC	○ Lub. Oil	Refer to Operation Manual
○ Exhaust valve	51.7° BBDC	11.7° ATDC		
<b>◎ COOLING SYSTEM</b>			<b>◎ ENGINEERING DATA</b>	
○ Cooling method	Fresh water forced circulation		○ Water flow	155 liters/min @1,500 rpm
○ Water capacity (engine only)	6.8 liters (1.8 gal.)		○ Heat rejection to coolant	12.1 kcal/sec @1,500 rpm
			○ Heat rejection to CAC	7.5 kcal/sec @1,500 rpm
○ Pressure system	Max. 0.5 kg/cm <sup>2</sup> ( 7.11 psi)		○ Engine waste heat	3.8 kcal/sec @1,500 rpm
○ Water pump	Centrifugal type driven by belt		○ Air flow	8.1 m <sup>3</sup> /min @1,500 rpm
○ Water pump Capacity	155 liters ( 40.9 gal.)/min		○ Exhaust gas flow	18.2 m <sup>3</sup> /min @1,500 rpm
	at 1,500 rpm (engine)		○ Exhaust gas temp.	600 °C @1,500 rpm
○ Thermostat	Wax–pellet type		○ Max. permissible	
	Opening temp. 82°C		restrictions	
	Full open temp. 95°C		Intake system	3 kPa initial



○ Cooling fan                      Blower type, plastic                      6 kPa final  
    620 mm diameter, 10 blades                      Exhaust system                      6 kPa max.

○ Cooling air flow                      3.52 m<sup>3</sup>/s                      ○ 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

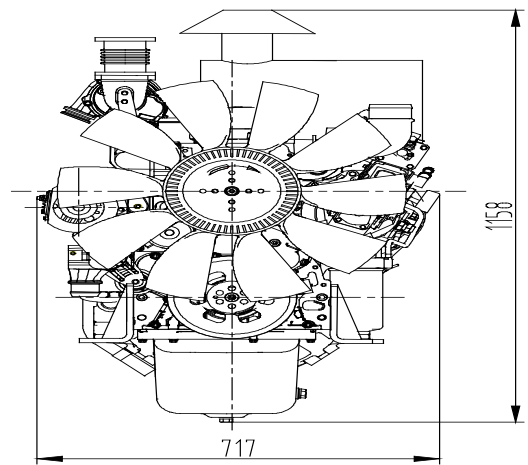
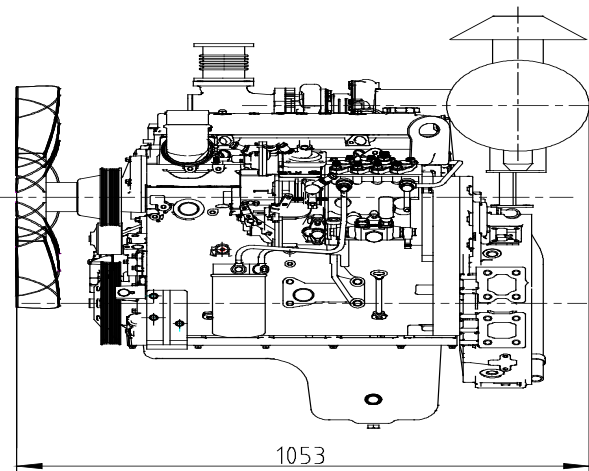
PS = kW × 1.3596                      U.S. gal = lit. × 0.264

psi = kg/cm<sup>2</sup> × 14.2233                      kW = 0.2388 kcal/s

in<sup>3</sup> = lit. × 61.02                      lb/PS.h = g/kW.h × 0.00162

hp = PS × 0.98635                      cfm = m<sup>3</sup>/min × 35.336

lb = kg × 2.20462



	Initial load acceptance when engine reaches rated speed (15 seconds maximum after engine starts to crank)				2nd load application Immediately after engine has recovered to rated speed (5 seconds after initial load application)			
	Engine speed	Prime power %	Load kWm (kWe) Nett	Transient Frequency deviation %	Frequency recovery time seconds	Prime power %	Load kWm (kWe) Nett	Transient Frequency deviation %
1500 rev/min	40	48	≤7	3	25	30	≤7	3