

Model:SC12E420D2

OUTPOON POWER RATING

Engine Speed	Type of	Engine Power	
rpm	Operation kW		Ps
1500	Prime Power	280	380
	Standby Power	308	420

- -. 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

© FUEL CONSUMPTION

O Engine Model	SC12E420D2	O Power	lit/hr	
O Engine Type	In-line,4 strokes, water-cooled 4 valves, Turbo charged air-to-air intercooled	25% 50% 75%	17.8 35.1 51.4	
O Combustion type	Direct injection	100%	68.6	
O Cylinder Type	Wet liner	110%	78.1	
O Number of cylinders	6			
O Bore × stroke	128(5.04) × 153(6.03) mm(in.))		
O Displacement	11.8(720) lit.(in3)			
O Compression ratio	17:1			
O Firing order	1-5-3-6-2-4	© FUEL SYSTEM		
O Injection timing	14°BTDC	O Injection pump	Longkou in-line "P" type	
O Dry weight	Approx.1070 kg (2,359 lb)	O Governor	Electric type	
O Dimension	1787×918×1294 mm	O Feed pump	Mechanical type	
$(L\times W\times H)$	(70.4×36.2×51 in.)	O Injection nozzle	Multi hole type	
O Rotation	Counter clockwise viewed from		250 kg/cm2 (3556 psi)	
www.sdecie.com w		ne 00862160652315 engine@sdecie.com	sc_fw@sdec.com.cn	



	Flywheel	O Fuel filter	Full flow, cartridge type
O Fly wheel housing	SAE NO.1	O Used fuel	Diesel fuel oil
O Fly wheel	SAE NO.14		
		 LUBRICATION SYSTI 	EM
О Туре	Over head valve	O Lub. Method	Fully forced pressure feed type
O Number of valve	Intake 2, exhaust 2 per cylinder	O Oil pump	Gear type driven by crankshaft
O Valve lashes at cold	Intake 0.40mm (0.0158 in.)	Oil filter	Full flow, cartridge type
	Exhaust 0.65mm (0.0256 in.)	O Oil pan capacity	High level 41 liters (10.82 gal.) Low level 33 liters (8.71 gal.)
VALVE TIMING	Opening Close	O Angularity limit	Front down 25 deg. Front up 35 deg.
O Intake valve	15 deg. BTDC 30 deg. ABDC		Side to side 35 deg.
O Exhaust valve	45 deg. BBDC 13 deg. ATDC	O Lub. Oil	Refer to Operation Manual
○ COOLING SYSTE	М	© ENGINEERING DATA	A
O Cooling method	Fresh water forced circulation	O Water flow	515 liters/min @1,500 rpm
O Water capacity	23.2 liters (6.12 gal.)	O Heat rejection to coolant	32.1 kcal/sec @1,500 rpm
(engine only)		O Heat rejection to CAC	11.2 kcal/sec @1,500 rpm
O Pressure system	Max. 0.5 kg/cm2 (7.11 psi)	O Air flow	17.5 m3/min @1,500 rpm
O Water pump	Centrifugal type driven by belt	• Exhaust gas flow	46.3 m3/min @1,500 rpm
O Water pump Capacity	515 liters (136 gal.)/min	O Exhaust gas temp.	600 °C @1,500 rpm
	at 1,500 rpm (engine)	O Max. permissible	
O Thermostat	Wax-pellet type Opening temp. 85°C Full open temp. 95°C	restrictions Intake system	3 kPa initial 6 kPa final



O Cooling fan

Blower type, plastic

Exhaust system

6 kPa max.

840 mm diameter, 8 blades

O Max. permissible altitude

2,000 m

© ELECTRICAL SYSTEM

♦ CONVERSION TABLE

O Charging generator

28V×70A

in. = $mm \times 0.0394$

 $lb/ft = N.m \times 0.737$

O Voltage regulator

Built-in type IC regulator

 $PS = kW \times 1.3596$

U.S. gal = lit. \times 0.264

O Starting motor

 $24V \times 5.5kW$

 $psi = kg/cm2 \times 14.2233$

kW = 0.2388 kcal/s

O Battery Voltage

24V

 $in^3 = lit. \times 61.02$

 $lb/PS.h = g/kW.h \times 0.00162$

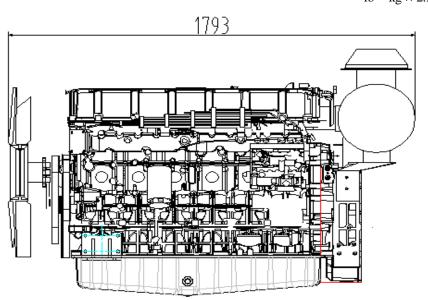
O Battery Capacity

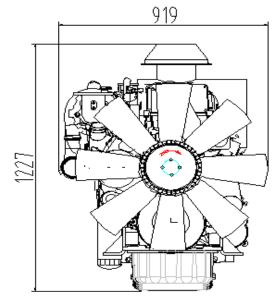
180 AH

 $hp = PS \times 0.98635$

 $cfm = m3/min \times 35.336$

 $lb = kg \times 2.20462 \,$





	Initial load acceptance			2nd load application				
	when engine reaches rated speed			Immediately after engine has recovered to rated speed				
	(15 seconds maximum after engine starts to crank)			(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 %	Frequency recovery time seconds
1500 rev/min	40	123	≤ 7	3	25	77	≤ 7	3