



SC13G420D2

Used for 308kVA generator

◎ POWER RATING

Engine Speed rpm	Type of Operation	Engine Power	
		kW	Ps
1500	Prime Power	280	381
	Standby Power	308	419

- 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	SC13G420D2
○ Engine Type	In-line,4 strokes, water-cooled Turbo charged air-to-air intercooled
○ Combustion type	Direct injection
○ Cylinder Type	Wet liner
○ Number of cylinders	6
○ Bore × stroke	135(5.32) × 150(5.9) mm(in.)
○ Displacement	12,88(786) lit.(in3)
○ Compression ratio	15.55: 1
○ Firing order	1-5-3-6-2-4
○ Injection timing	14.5°BTDC
○ Dry weight	Approx.1296kg (2857.2 lb)
○ Dimension (L×W×H)	1704×1063×1540 mm (67.1×41.9×60.7 in.)
○ Rotation	Counter clockwise viewed from Flywheel

◎ FUEL CONSUMPTION

○ Power	lit/hr
25%	20.4
50%	36.5
75%	52.8
100%	70.4
110%	78.9

◎ FUEL SYSTEM

○ Injection pump	Yijie in-line “P” type
○ Governor	Electric type
○ Feed pump	Mechanical type
○ Injection nozzle	Multi hole type
○ Opening pressure	240kg/cm2 (3414 psi)
○ Fuel filter	Full flow, cartridge type

○ Fly wheel housing	SAE NO.1	○ Used fuel	Diesel fuel oil
○ Fly wheel	SAE NO.14		

⊙ **MECHANISM**

○ Type	Over head valve
○ Number of valve	Intake 1, exhaust 1 per cylinder
○ Valve lashes at cold	Intake 0.325mm (0.0128 in.) Exhaust 0.375mm (0.0148 in.)

⊙ **VALVE TIMING**

	Opening	Close
○ Intake valve	20 deg. BTDC	48 deg. ABDC
○ Exhaust valve	48 deg. BBDC	20 deg. ATDC

⊙ **COOLING SYSTEM**

○ Cooling method	Fresh water forced circulation
○ Water capacity (engine only)	25.5 liters (6.73 gal.)
○ Pressure system	Max. 0.5 kg/cm ² (7.11 psi)
○ Water pump	Centrifugal type driven by belt
○ Water pump Capacity	450 liters (118.8 gal.)/min at 1,500 rpm (engine)
○ Thermostat	Wax–pellet type Opening temp. 77°C Full open temp. 90°C
○ Cooling fan	Blower type,iron 920 mm diameter, 6 blades
○ Cooling air flow	8.83 m ³ /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 41 liters (10.82 gal.) Low level 33 liters (8.71 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	450 liters/min @1,500 rpm
○ Heat rejection to coolant	28.2kcal/sec @1,500 rpm
○ Heat rejection to CAC	17.6 kcal/sec @1,500 rpm
○ Air flow	15.6 m ³ /min @1,500 rpm
○ Exhaust gas flow	60.3m ³ /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	10 kPa max.
○ Max. permissible altitude	2,000 m
○ Fan power	10 kW

◎ ELECTRICAL SYSTEM

- Charging generator 28V×55A
- Voltage regulator Built-in type IC regulator
- Starting motor 24V×7.5kW
- Battery Voltage 24V
- Battery Capacity 180 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

