上海柴油机股份有限公司
SHANGHAI DIESEL ENGINE CO.,LTD.

Model:SC27G900D2

◎ **POWER RATING**

Engine Speed	Type of	Gross Engine Output	Net Engine Output
rpm	Operation	kW	kW
1500	Prime Power	602	577
	Standby Power	662	637

-. 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 — SC27G900D2

○ Engine Type — V-type,4 strokes, water-cooled
Turbo charged
air-to-air intercooled

○ Combustion type — Direct injection

○ Cylinder Type — Wet liner

○ Number of cylinders — 12

○ Bore × stroke — 135(5.32) × 155(6.1) mm(in.)

○ Displacement — 26.6(1623) lit.(in3)

○ Compression ratio — 16 : 1

○ Firing order — 1-12-5-8-3-10-6-7-2-11-4-9

○ Injection timing — 13±0.5°BTDC

○ Dry weight — Approx. 2080kg (4586 lb)

○ Dimension — 1930×1686×1872mm

(L×W×H) — (76×66.4×73.8 in.)

○ Rotation — Counter clockwise viewed from

◎ **FUEL CONSUMPTION**

Power	lit/hr
25%	45.9
50%	76.7
75%	111.5
100%	148.8
110%	164.5

◎ **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)

	Flywheel	○ Fuel filter	Full flow, cartridge type
○ Fly wheel housing	SAE NO.0	○ Used fuel	Diesel fuel oil
○ Fly wheel	SAE NO.18		

◎ **MECHANISM**

◎ **LUBRICATION SYSTEM**

○ Type	Over head valve	○ Lub. Method	Fully forced pressure feed type
○ Number of valve	Intake 1, exhaust 1 per cylinder	○ Oil pump	Gear type driven by crankshaft
○ Valve lashes at cold	Intake 0.325mm (0.0128 in.)	○ Oil filter	Full flow, cartridge type
	Exhaust 0.375mm (0.0148 in.)	○ Oil pan capacity	High level 65 liters (17.16 gal.) Low level 55 liters (14.52 gal.)

◎ **VALVE TIMING**

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

○ Angularity limit — Front down 25 deg. Front up 35 deg.

Side to side 35 deg.

○ Lub. Oil — Refer to Operation Manual

◎ **COOLING SYSTEM**

◎ **ENGINEERING DATA**

○ Cooling method	Fresh water forced circulation	○ Water flow	740 liters/min @1,500 rpm
○ Water capacity	48L (12.7 gal.)	○ Heat rejection to coolant	60.5kcal/sec /1500 rpm
(engine only)		○ Heat rejection to CAC	37.8kcal/sec /1500 rpm
○ Pressure system	Max. 0.5 kg/cm2 (7.11 psi)	○ Engine waste heat	18.9 kcal/sec @1,500 rpm
○ Water pump	Centrifugal type driven by belt	○ Air flow	2×25.5m3/min /1500 rpm
○ Water pump Capacity	740 liters (195.36 gal.)/min	○ Exhaust gas flow	2×62.2m3/min /1500 rpm
	at 1,500 rpm (engine)	○ Exhaust gas temp.	650 °C @1,500 rpm
○ Thermostat	Wax–pellet type Opening temp. 77°C Full open temp. 90°C	○ Max. permissible restrictions Intake system	3 kPa initial

○ Cooling fan

Blower type,iron
1220 mm diameter, 6 blades

6 kPa final

Exhaust system · 6 kPa max.

○ Cooling air flow

18.024 m³ /s

○ Max. permissible altitude

2,000 m

○ Fan power

22 kW

◎ ELECTRICAL SYSTEM

○ Charging generator · 28V×55A

○ Voltage regulator · Built-in type IC regulator

○ Starting motor · 24V×11kW

○ Battery Voltage · 24V

○ Battery Capacity · 200 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
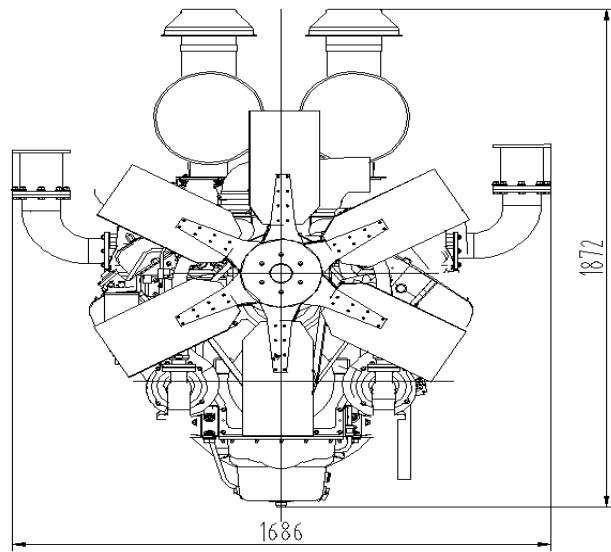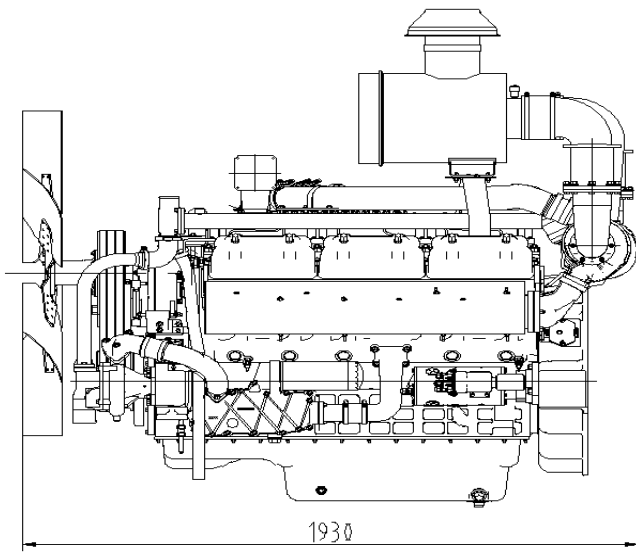
	Initial load acceptance when engine reaches rated speed (15 seconds maximum after engine starts to crank)				2nd load application Immediately after engine has recovered to rated speed (5 seconds after initial load application)			
Engine speed	Prime power %	Load kWm (kWe) Nett	Transient Frequency deviation %	Frequency recovery time seconds	Prime power %	Load kWm (kWe) Nett	Transient Frequency deviation %	Frequency recovery time seconds
1500 rev/min	55	331	≤7	3	35	211	≤7	3