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

Model:SC4H160D2

◎ POWER RATING

Engine Speed	Type of	Gross Engine Output	Net Engine Output
rpm	Operation	kW	kW
1500	Prime Power	105	99
	Standby Power	116	110

-. 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	SC4H160D2
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

◎ FUEL CONSUMPTION

O Power	lit/hr
25%	6.6
50%	12.8
75%	16.7
100%	25.0
110%	27.7

◎ 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)

	Flywheel
○ 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	6.8 liters (1.8 gal.)
(engine only)	
○ Pressure system	Max. 0.5 kg/cm2 (7.11 psi)
○ Water pump	Centrifugal type driven by belt
○ Water pump Capacity	155 liters (136 gal.)/min
	at 1,500 rpm (engine)
○ Thermostat	Wax–pellet type Opening temp. 82°C Full open temp. 95°C

○ Fuel filter	Full flow, cartridge type
○ 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	10.6 kcal/sec @1,500 rpm
○ Heat rejection to CAC	6.6 kcal/sec @1,500 rpm
○ Engine waste heat	3.3 kcal/sec @1,500 rpm
○ Air flow	7.39 m3/min @1,500 rpm
○ Exhaust gas flow	16.3 m3/min @1,500 rpm
○ Exhaust gas temp.	600 °C @1,500 rpm
○ Max. permissible restrictions	
Intake system	3 kPa initial

○ Cooling fan	Blower type, plastic 620 mm diameter, 10 blades
○ Cooling air flow	3.09 m^3 /s

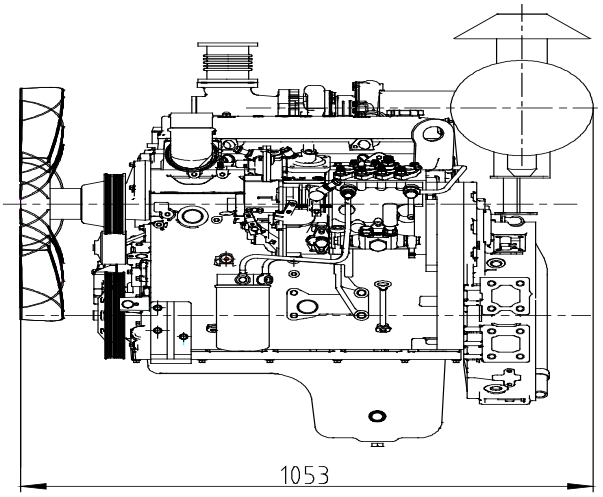
	6 kPa final
Exhaust system	6 kPa max.
○ Max. permissible altitude	2,000 m
○ Fan power	5 kW

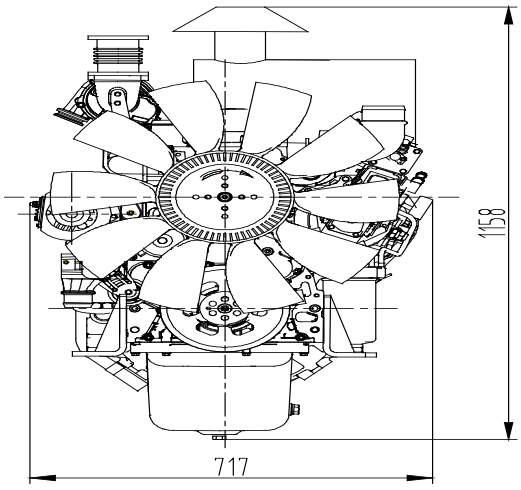
◎ ELECTRICAL SYSTEM

○ 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	





	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	45	47	≤7	3	25	26	≤7	3