◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Continuous Power	186	253
	Prime Power	205	279
	Standby Power	223	303
1500	Continuous Power	151	205
	Prime Power	177	240
	Standby Power	199	270
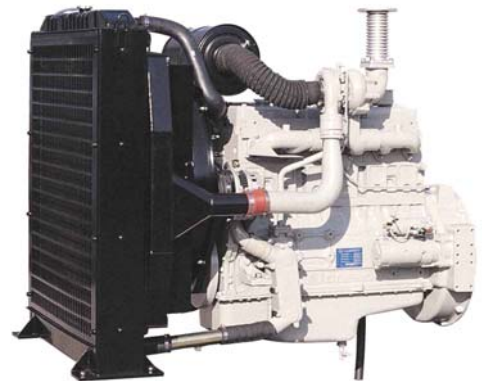
Note : -. The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271.

  -. Ratings are based on ISO 8528.

  → **Prime power** available at variable load. The permissible average power out put (during 24h period) shell not exceed 70% of the prime power rating.

  → **Standby power** available in the event of a main power network failure. No overload is permitted.

◎ MECHANICAL SYSTEM

○ Engine Model   P086TI
○ Engine Type   In-line 4 cycle, water cooled
    Turbo charged & intercooled (air to air)
○ Combustion type   Direct injection
○ Cylinder Type   Replaceable dry liner
○ Number of cylinders   6
○ Bore x stroke   111(4.37) x 139(5.47) mm(in.)
○ Displacement   8.071(492.49) lit.(in^3)
○ Compression ratio   16.4 : 1
○ Firing order   1-5-3-6-2-4
○ Injection timing   12° BTDC
○ Compression pressure   Above 28 kg/cm2(398 psi) at 200rpm
○ Dry weight   Approx. 790 kg (1,742 lb)
○ Dimension   1,242 x 918 x 1,099.5 mm
  (LxWxH)   (48.9 x 36.1 x 43.3 in.)
○ Rotation   Counter clockwise viewed from Flywheel
○ Fly wheel housing   SAE NO.1
○ Fly wheel   Clutch NO.14

◎ MECHANISM

○ Type   Over head valve
○ Number of valve   Intake 1, exhaust 1 per cylinder
○ Valve lashes at cold   Intake   0.30mm (0.0118 in.)
    Exhaust 0.30mm (0.0118 in.)

◎ VALVE TIMING

	Opening	Close
○ Intake valve	16 deg. BTDC	36 deg. ABDC
○ Exhaust valve	46 deg. BBDC	14 deg. ATDC

◎ FUEL CONSUMPTION

○ **Prime Power** (lit/hr)	**1,500 rpm**	**1,800 rpm**
25%	11.3	13.8
50%	21.1	25.1
75%	31.7	37.7
100%	43.1	50.6

○ **Standby Power** (lit/h)	**1,500 rpm**	**1,800 rpm**
25%	12.7	15.2
50%	23.7	27.7
75%	35.5	41.6
100%	48.4	56.8

◎ FUEL SYSTEM

○ Injection pump   Zexel in-line "P" type
○ Governor   Electric type
○ Feed pump   Mechanical type
○ Injection nozzle   Multi hole type
○ Opening pressure   224 kg/cm^2 (3,186 psi)
○ 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 15.5 liters (4.09 gal.)
    Low level 12 liters (3.17 gal.)
○ Angularity limit   Front down 25 deg.
    Front up 25 deg.
    Side to side 25 deg.
○ Lub. Oil   Refer to Operation Manual

◎ COOLING SYSTEM

○ Cooling method	Fresh water forced circulation
○ Water capacity (engine only)	14 liters (3.70 gal.)
○ Pressure system	Max. 0.9 kg/cm^2 (12.8 psi)
○ Water pump	Centrifugal type driven by belt
○ Water pump Capacity	150 liters (39.6 gal.)/min at 1,800 rpm (engine)
○ Thermostat	Wax – pellet type Opening temp. 71°C Full open temp. 85°C
○ Cooling fan	Blower type, plastic 660.4 mm diameter, 7 blade

◎ ELECTRICAL SYSTEM

○ Charging generator	24V x 45A alternator
○ Voltage regulator	Built-in type IC regulator
○ Starting motor	24V x 6.0kW
○ Battery Voltage	24V
○ Battery Capacity	100 AH (recommended)
○ Starting aid (Option)	Block heater

◎ ENGINEERING DATA

○ Water flow	130 liters/min @1,500 rpm
○ Heat rejection to coolant	17.3 kcal/sec @1,500 rpm
○ Heat rejection to CAC	4.5 kcal/sec @1,500 rpm
○ Air flow	12.1 m^3/min @1,500 rpm
○ Exhaust gas flow	33.9 m^3/min @1,500 rpm
○ Exhaust gas temp.	580 °C @1,500 rpm
○ Water flow	150 liters/min @1,800 rpm
○ Heat rejection to coolant	20.3 kcal/sec @1,800 rpm
○ Heat rejection to CAC	10.8 kcal/sec @1,800 rpm
○ Air flow	16.8 m^3/min @1,800 rpm
○ Exhaust gas flow	38.8 m^3/min @1,800 rpm
○ Exhaust gas temp.	530 °C @1,800 rpm
○ Max. permissible restrictions	
‒.Intake system	220 mmH$_2$O initial 635 mmH$_2$O final
‒.Exhaust system	600 mmH$_2$O max.

◆ CONVERSION TABLE

in. = mm x 0.0394	lb/ft = N.m x 0.737
PS = kW x 1.3596	U.S. gal = lit. x 0.264
psi = kg/cm2 x 14.2233	kW = 0.2388 kcal/s
in3 = lit. x 61.02	lb/PS.h = g/kW.h x 0.00162
hp = PS x 0.98635	cfm = m^3/min x 35.336
lb = kg x 2.20462	