

## ◎ 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) shall 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 <sup>3</sup> )
○ Compression ratio	16.4 : 1
○ Firing order	1-5-3-6-2-4
○ Injection timing	12° BTDC
○ Compression pressure	Above 28 kg/cm <sup>2</sup> (398 psi) at 200rpm
○ Dry weight	Approx. 790 kg (1,742 lb)
○ Dimension (LxWxH)	1,242 x 918 x 1,099.5 mm (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 <sup>2</sup> (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 14 liters ( 3.70 gal.)  
(engine only)
- Pressure system Max. 0.9 kg/cm<sup>2</sup> ( 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

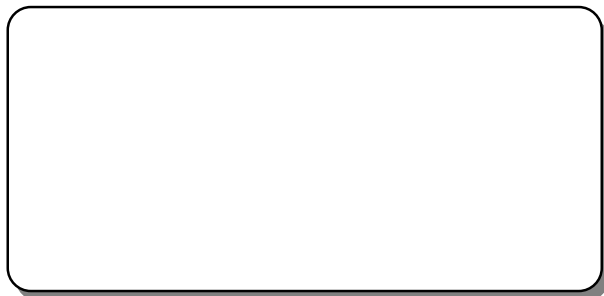
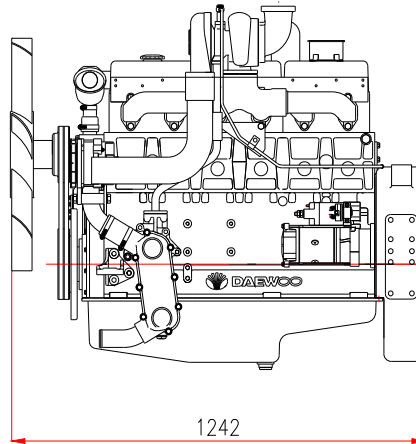
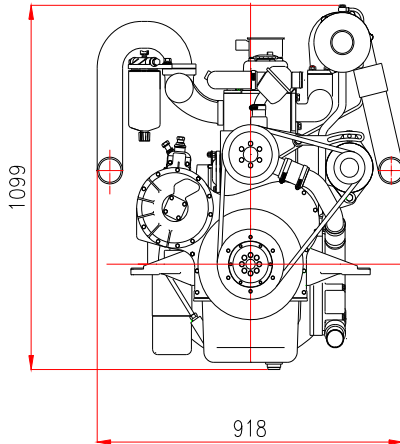
- Charging generator 24V x 45A alternator
- Voltage regulator Built-in type IC regulator
- Starting motor 24V x 6.0kW
- Battery Voltage 24V
- Battery Capacity 100 AH (recommended)
- Starting aid (Option) Block heater

## ◎ ENGINEERING DATA

- Water flow 130 liters/min @1,500 rpm  
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 13.9 m<sup>3</sup>/min @1,500 rpm  
16.8 m<sup>3</sup>/min @1,800 rpm
- Exhaust gas flow 38.8 m<sup>3</sup>/min @1,800 rpm
- Exhaust gas temp. 530 °C @1,800 rpm
- Max. permissible restrictions
  - Intake system 220 mmH<sub>2</sub>O initial  
635 mmH<sub>2</sub>O final
  - Exhaust system 600 mmH<sub>2</sub>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/cm <sup>2</sup> x 14.2233	kW = 0.2388 kcal/s
in <sup>3</sup> = lit. x 61.02	lb/PS.h = g/kW.h x 0.00162
hp = PS x 0.98635	cfm = m <sup>3</sup> /min x 35.336
lb = kg x 2.20462	



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※ Specifications are subject to change without prior notice