

## ◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	174	237
	Standby Power	191	260
1500	Prime Power	149	203
	Standby Power	164	223



- The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271.
- Ratings are based on ISO 8528. (If you need more information, contact the sales organization.)
  - **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 70% of the prime power rating.
  - **Standby power** is available in the event of a utility power outage or under test conditions for up to 200h of operation per year.  
The permissible average power output over 24 hours of operation shall not exceed 70% of the standby power rating.  
No overload is permitted.

## ◎ MECHANICAL SYSTEM

○ Engine Model	P086TI-1
○ 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.(in3)
○ 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 (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 0.30 mm (0.0118 in.) Exhaust 0.30 mm (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)	<b>1,500 rpm</b>	<b>1,800 rpm</b>
25%	10.1	12.2
50%	18.7	22.1
75%	26.7	31.6
100%	35.4	42.4
○ Standby Power (lit/hr)	<b>1,500 rpm</b>	<b>1,800 rpm</b>
25%	10.9	13.3
50%	20.3	24.0
75%	29.2	34.7
100%	39.0	46.7

## ◎ 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/cm2 (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. 0.5 kg/cm<sup>2</sup> ( 7.11 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
- Heat rejection to CAC
- Air flow 13.9 m<sup>3</sup>/min @1,500 rpm
- Exhaust gas flow
- Exhaust gas temp.

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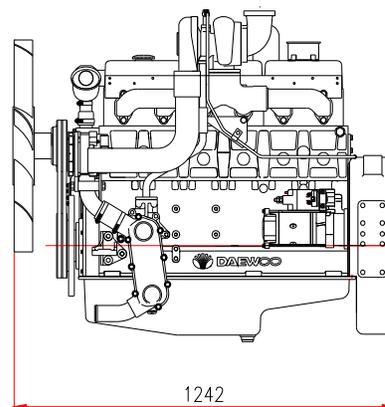
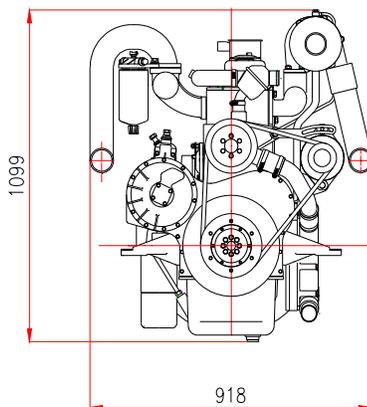
- Water flow 150 liters/min @1,800 rpm
- Heat rejection to coolant 20.3 kcal/sec @1,800 rpm
- Heat rejection to CAC 10.8 kcal/sec @1,800 rpm
- Air flow 16.8 m<sup>3</sup>/min @1,800 rpm
- Exhaust gas flow 38.8 m<sup>3</sup>/min @1,800 rpm
- Exhaust gas temp. 530 °C @1,800 rpm

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- 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.
- Max. permissible altitude 1500 m

## ◆ CONVERSION TABLE

- in. = mm x 0.0394
- PS = kW x 1.3596
- psi = kg/cm<sup>2</sup> x 14.2233
- in<sup>3</sup> = lit. x 61.02
- hp = PS x 0.98635
- lb = kg x 2.20462
- lb/ft = N.m x 0.737
- U.S. gal = lit. x 0.264
- kW = 0.2388 kcal/s
- lb/PS.h = g/kW.h x 0.00162
- cfm = m<sup>3</sup>/min x 35.336



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※ Specifications are subject to change without prior notice