

## ◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	591	803
	Standby Power	649	883
1500	Prime Power	532	723
	Standby Power	574	781



-. 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	P222LE
○ Engine Type	V-type 4 cycle, water cooled Turbo charged & intercooled (air to air)
○ Combustion type	Direct injection
○ Cylinder Type	Replaceable wet liner
○ Number of cylinders	12
○ Bore x stroke	128(5.04) x 142(5.59) mm(in.)
○ Displacement	21.927 (1,338.0) lit.(in3)
○ Compression ratio	15 : 1
○ Firing order	1-12-5-8-3-10-6-7-2-11-4-9
○ Injection timing	16° BTDC
○ Compression pressure	Above 28 kg/cm2(398 psi) at 200rpm
○ Dry weight	Approx. 1,575 kg (3,472 lb)
○ Dimension (LxWxH)	1,717 x 1,389 x 1,288 mm (67.6 x 54.7 x 50.7 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 0.25mm (0.0098 in.) Exhaust 0.35mm (0.0138 in.)

## ◎ VALVE TIMING

	Opening	Close
○ Intake valve	24 deg. BTDC	36 deg. ABDC
○ Exhaust valve	63 deg. BBDC	27 deg. ATDC

## ◎ FUEL CONSUMPTION

○ Prime Power (lit/hr)	1,500 rpm	1,800 rpm
25%	35.7	41.9
50%	65.8	75.9
75%	97.6	112.0
100%	134.0	153.9
○ Standby Power (lit/hr)	1,500 rpm	1,800 rpm
25%	39.8	45.5
50%	74.5	83.7
75%	112.3	125.8
100%	154.3	173.5

## ◎ FUEL SYSTEM

○ Injection pump	Bosch in-line "P" type
○ Governor	Electric type
○ Feed pump	Mechanical type
○ Injection nozzle	Multi hole type
○ Opening pressure	285 kg/cm2 (4,054 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 40 liters ( 10.6 gal.) Low level 33 liters ( 8.7 gal.)
○ Angularity limit	Front down 20 deg. Front up 20 deg. Side to side 15 deg.
○ Lub. Oil	Refer to Operation Manual

## ◎ COOLING SYSTEM

- Cooling method Fresh water forced circulation
- Water capacity 23 liters ( 6.07 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 410 liters ( 108.2 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  
915 mm diameter, 7 blade

## ◎ ELECTRICAL SYSTEM

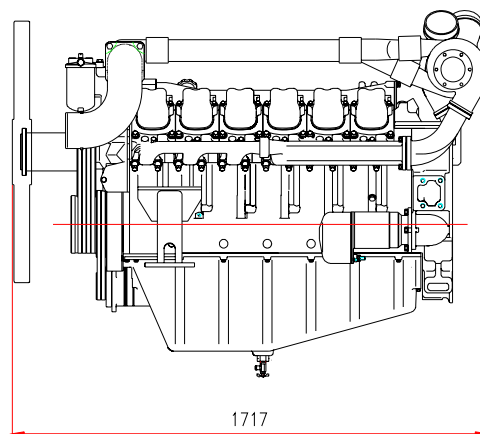
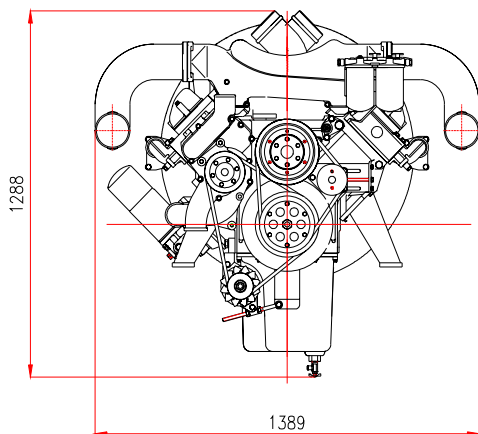
- Charging generator 24V x 45A alternator
- Voltage regulator Built-in type IC regulator
- Starting motor 24V x 7.0kW
- Battery Voltage 24V
- Battery Capacity 200 AH (recommended)
- Starting aid (Option) Block heater

## ◎ ENGINEERING DATA

- Water flow 342 liters/min @1,500 rpm
- Heat rejection to coolant 59.0 kcal/sec @1,500 rpm
- Heat rejection to CAC 21.1 kcal/sec @1,500 rpm
- Air flow 38.0 m<sup>3</sup>/min @1,500 rpm
- Exhaust gas flow 117.5 m<sup>3</sup>/min @1,500 rpm
- Exhaust gas temp. 580 °C @1,500 rpm
- Water flow 410 liters/min @1,800 rpm
- Heat rejection to coolant 60.2 kcal/sec @1,800 rpm
- Heat rejection to CAC 27.9 kcal/sec @1,800 rpm
- Air flow 46.7 m<sup>3</sup>/min @1,800 rpm
- Exhaust gas flow 137.0 m<sup>3</sup>/min @1,800 rpm
- Exhaust gas temp. 606 °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.
- Max. permissible altitude 1500 m

## ◆ 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                  |                                    |



### Head office

7-11, Hwasu-Dong, Dong-Gu, Incheon, Korea

TEL : 82-32-211-2246, 2222 FAX : 82-32-761-2759

### Seoul Office

Doosan Infracore Co. Ltd.,

22nd Floor, Doosan Tower, 18-12, Euljiro 6-ga, Jung-gu, Seoul, Korea.

TEL : 82-2-3398-8521~8535 FAX : 82-2-3398-8509

Web site : [www.doosaninfracore.com](http://www.doosaninfracore.com)

※ Specifications are subject to change without prior notice