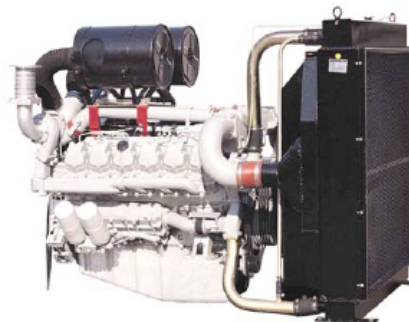


P222LE G-DRIVE

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Continuous Power	537	730
	Prime Power	591	803
	Standby Power	649	883
1500	Continuous Power	473	643
	Prime Power	532	723
	Standby Power	574	781



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	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.(in ³)
○ 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/cm ² (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
○ Standby Power (lit/h)	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/cm ² (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. 0.9 kg/cm² (12.8 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 ³ /min @1,500 rpm |
| ○ Exhaust gas flow | 117.5 m ³ /min @1,500 rpm |
| ○ Exhaust gas temp. | 580 °C @1,500 rpm |
| <hr/> | |
| ○ 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 ³ /min @1,800 rpm |
| ○ Exhaust gas flow | 137.0 m ³ /min @1,800 rpm |
| ○ Exhaust gas temp. | 606 °C @1,800 rpm |
| <hr/> | |
| ○ 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/cm ² x 14.2233 | kW = 0.2388 kcal/s |
| in ³ = 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 | |

