

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	441	600
	Standby Power	481	654
1500	Prime Power	402	546
	Standby Power	441	600



- 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 P158LE-S
- 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 8
- Bore x stroke 128(5.04) x 142(5.59) mm(in.)
- Displacement 14.618(892.0) lit.(in3)
- Compression ratio 14.6 : 1
- Firing order 1-5-7-2-6-3-4-8
- Injection timing 16° BTDC (60Hz) / 12° BTDC (50Hz)
- Compression pressure Above 28 kg/cm2(398 psi) at 200rpm
- Dry weight Approx. 961 kg (2,119 lb)
- Dimension (LxWxH) 1,484 x 1,389 x 1,161.5 mm
(58.4 x 54.7 x 45.7 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 0.3mm (0.0118 in.)
Exhaust 0.4mm (0.0157 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% | 25.9 | 32.5 |
| 50% | 49.3 | 55.2 |
| 75% | 74.0 | 82.1 |
| 100% | 99.5 | 111.5 |
| ○ Standby Power (lit/hr) | 1,500 rpm | 1,800 rpm |
| 25% | 28.2 | 34.8 |
| 50% | 54.0 | 59.5 |
| 75% | 81.5 | 89.9 |
| 100% | 109.7 | 122.7 |

◎ 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 21 liters (5.55 gal.)
Low level 17 liters (4.50 gal.)
- Angularity limit Front down 35 deg.
Front up 35 deg.
Side to side 35 deg.
- Lub. Oil Refer to Operation Manual

◎ COOLING SYSTEM

- Cooling method Fresh water forced circulation
- Water capacity 20 liters (5.28 gal.)
(engine only)
- Pressure system Max. 0.5 kg/cm² (7.11 psi)
- Water pump Centrifugal type driven by belt
- Water pump Capacity 508 liters (134.2 GPM)/min
at 1,800 rpm (engine only)
- 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

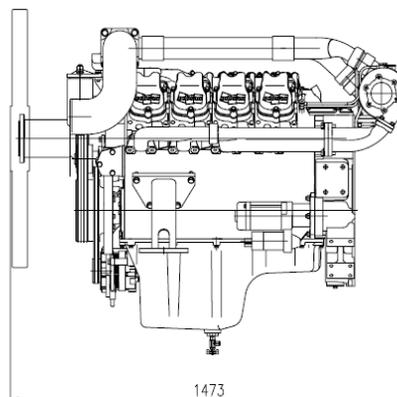
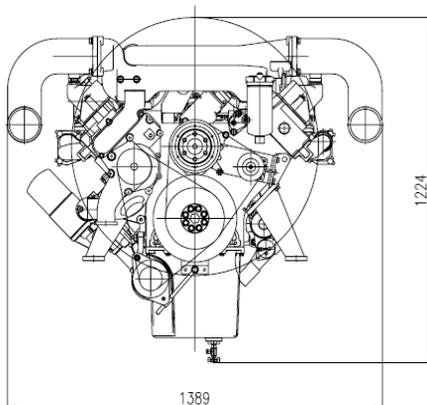
- Charging generator 24V x 45A alternator
- Voltage regulator Built-in type IC regulator
- Starting motor 24V x 7.0kW
- Battery Voltage 24V
- Battery Capacity 200 AH (recommended)
- Starting aid (Option) Block heater

◎ ENGINEERING DATA

- | | |
|---------------------------------|----------------------------------------------------------------|
| ○ Water flow | 433 liters/min @1,500 rpm |
| ○ Heat rejection to coolant | 37.2 kcal/sec @1,500 rpm |
| ○ Heat rejection to CAC | 16.1 kcal/sec @1,500 rpm |
| ○ Air flow | 29.3 m ³ /min @1,500 rpm |
| ○ Exhaust gas flow | 82.6 m ³ /min @1,500 rpm |
| ○ Exhaust gas temp. | 560 °C @1,500 rpm |
| <hr/> | |
| ○ Water flow | 508 liters/min @1,800 rpm |
| ○ Heat rejection to coolant | 41.7 kcal/sec @1,800 rpm |
| ○ Heat rejection to CAC | 20.3 kcal/sec @1,800 rpm |
| ○ Air flow | 34.7 m ³ /min @1,800 rpm |
| ○ Exhaust gas flow | 94.4 m ³ /min @1,800 rpm |
| ○ Exhaust gas temp. | 530 °C @1,800 rpm |
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| ○ Max. permissible restrictions | |
| -. Intake system | 220 mmH ₂ O initial
635 mmH ₂ O final |
| -. Exhaust system | 600 mmH ₂ O max. |
| ○ Max. permissible altitude | 1500 m |

◆ CONVERSION TABLE

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|------------------------------------|------------------------------------|
| 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 | |



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