

PU086 FIRE PUMP ENGINE

© POWER RATING

Intermittent rating kW(PS) / rpm	Max. torque N.m(kg.m) / rpm	Fuel consumption g/kW.h(g/PS.h) / rpm
121 (165) / 2,450	559 (57) / 1,500	231 (170) / 2,450

- 1. The engine performance corresponds to ISO 3046
- 2. Continuous power rating is to 107kW(145ps) @2200rpm.

© MECHANICAL SYSTEM

○ Engine Model

○ Engine Type In-line 4 cycle, water cooled

Naturally aspirated

○ Combustion type Direct injection

O Cylinder Type Replaceable dry liner

Number of cylinders

O Bore x stroke 111(4.37) x 139(5.47) mm(in.)

O Displacement 8.071(492.49) lit.(in3)

16.8:1 ○ Compression ratio 1-5-3-6-2-4 ○ Firing order 18° BTDC O Injection timing

Above 28 kg/cm²(398 psi) at 200rpm Compression pressure

Approx. 780 kg (1,720 lb) O Dry weight 1,117 x 759 x 977 mm O Dimension

(LxWxH) (43.9 x 29.8 x 38.5 in.)

○ Rotation Counter clockwise viewed from Flywheel

○ Fly wheel housing SAE NO.2M

○ Fly wheel Clutch NO.11 1/2M

© MECHANISM

○ Type Over head valve

O Number of valve Intake 1, exhaust 1 per cylinder O Valve lashes at cold Intake 0.30 mm(0.0118 in)

Exhaust 0.30 mm(0.0118 in.)

Class

O-- -----

© VALVE TIMING

	Opening	Close
O Intake valve	16 deg. BTDC	36 deg. ABDC
○ Exhaust valve	46 deg. BBDC	14 deg. ATDC

© OPTION & ACCESSORY PARTS

• Engine parts Fly wheel & housing

Intake & exhaust manifold

O Accessory parts

O Electrical parts Stop solenoid

© FUEL SYSTEM

○ Injection pump Zexel in-line "AD" type ○ Governor RSV type(all speed control)

○ Feed pump Mechanical type ○ Injection nozzle Multi hole type

Opening pressure 214 kg/cm2 (3,044 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 liters (4.09 gal.)

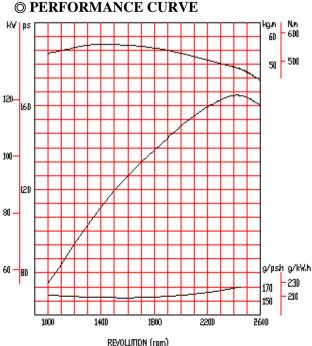
Low level 12 liters (3.17 gal.)

○ Angularity limit Front down 25 deg.

> Front up 25 deg. Side to side 25 deg.

○ Lub. Oil Refer to Operation Manual

© PERFORMANCE CURVE





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© COOLING SYSTEM

○ Cooling method Fresh water forced circulation

○ Water capacity 14 liters (3.70 gal.)

(engine only)

 \circ Pressure system Max. 0.5 kg/cm² (7.1 psi) \circ Water pump Centrifugal type driven by belt

○ Water pump Capacity 273 liters (60.1 gal.)/min

at 2,450 rpm (engine)

○ Thermostat Wax – pellet type

Opening temp. 71°C Full open temp. 85°C

○ Cooling fan Blower type, steel

590 mm diameter, 6 blade

© ENGINEERING DATA

○ Water flow 273 liters/min @2,450 rpm

○ Heat rejection to coolant 17.7 kcal/sec @2,450 rpm

 \circ Air flow 8.0 m³/min @2,450 rpm

○ Exhaust gas flow 8.4 m³/min @2,450 rpm

○ Exhaust gas temp. 674 °C @2,450 rpm

○ Max. permissible restrictions

-.Intake system 220 mmH₂O initial

635 mmH₂O final

-.Exhaust system 1,000 mmH₂O max.

© ELECTRICAL SYSTEM

○ Charging generator 24V x 45A [or 12V x 26A] alternator

○ Voltage regulator Built-in type IC regulator

○ Starting motor 24V x 4.5kW [or 12V x 2.5kW]

○ Battery Voltage 24V [or 12V]

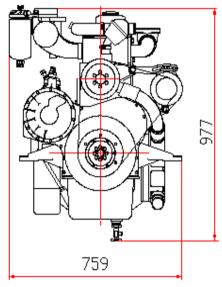
○ Battery Capacity 100 AH [or 150 AH](recommended)

○ Starting aid (Option) Block heater

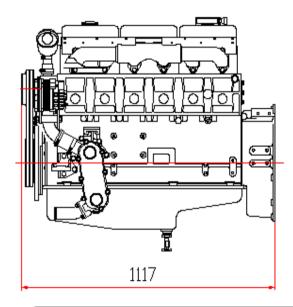
◆ CONVERSION TABLE

in3 = 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

 $1b = kg \times 2.20462$







Doosan Infracore Co., Ltd.

21st Floor, Doosan Tower, 18-12, Euljiro 6-ga, Jung-gu, Seoul, Korea

TEL: +82-2-3398-8400 / Fax: +82-2-3398-8509

E-mail: enginesales@doosan.com Web site: www.doosaninfracore.com