

## PU222TI P-DRIVE

### ◎ POWER RATING

| Intermittent rating<br>kW(PS) / rpm | Max. torque<br>N.m(kg.m) / rpm | Fuel consumption<br>g/kW.h(g/PS.h) / rpm |
|-------------------------------------|--------------------------------|--|
| 588 (800) / 2100                    | 3205 (327) / 1500              | 223 (164) / 2100                         |

- Note : 1. The engine performance corresponds to ISO 3046, DIN 6270B.  
 2. Continuous duty at charge and constant speed consider on engine choice, a power derating of about 15%.  
 3. Max. rpm of Continuous duty is 1,800rpm.



### ◎ MECHANICAL SYSTEM

- Engine Model PU222TI
- Engine Type V-type 4 cycle, water cooled  
Turbo charged & intercooled
- 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<sup>3</sup>)
- Compression ratio 15 : 1
- Firing order 1-12-5-8-3-10-6-7-2-11-4-9
- Injection timing 18° BTDC
- 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

### ◎ 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 |

### ◎ OPTION & ACCESSORY PARTS

- Engine parts Fly wheel & housing  
Intake & exhaust manifold
- Accessory parts Raditor, silencer & air cleaner
- Electrical parts Gauge panel & stop solenoid

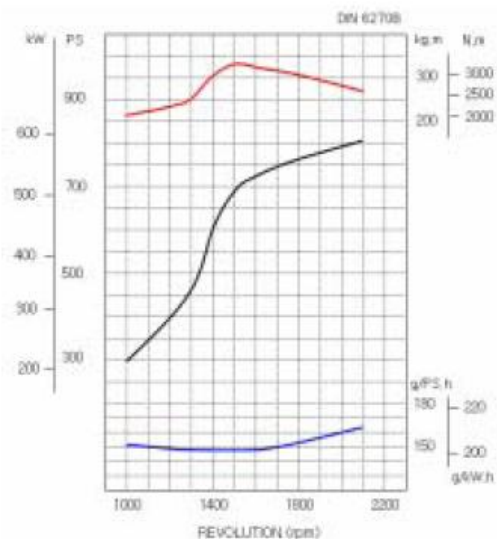
### ◎ FUEL SYSTEM

- Injection pump Bosch in-line "P" type
- Governor Mechanical type
- Feed pump Mechanical type
- Injection nozzle Multi hole type
- 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

### ◎ PERFORMANCE CURVE

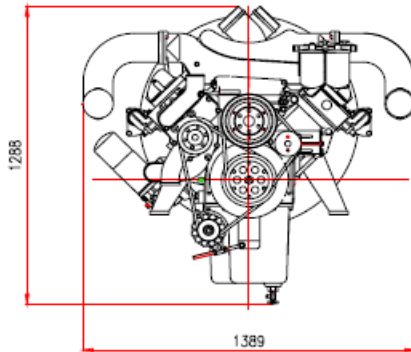


**© COOLING SYSTEM**

- 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> ( 7.1 psi)
- Water pump Centrifugal type driven by belt
- Water pump Capacity 454 liters ( 120 gal.)/min  
at 2,100 rpm (engine)
- Thermostat Wax – pellet type  
Opening temp. 79°C  
Full open temp. 94°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 454 liters/min @2,100 rpm
- Heat rejection to coolant 67 kcal/sec @2,100 rpm
- Heat rejection to CAC 47 kcal/sec @2,100 rpm
- Air flow 47 m<sup>3</sup>/min @2,100 rpm
- Exhaust gas flow 132 m<sup>3</sup>/min @2,100 rpm
- Exhaust gas temp. 600 °C @2,100 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.

**◆ 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

