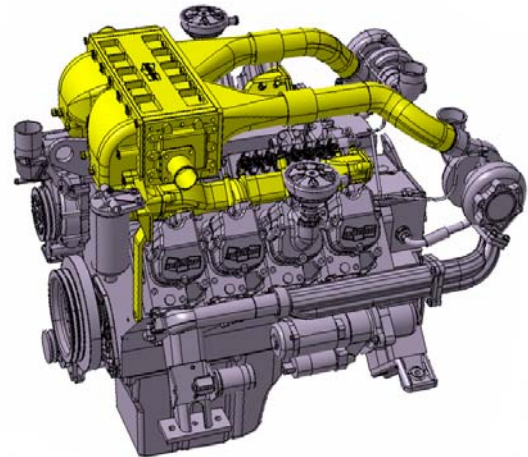


## ◎ POWER RATING

RPM	Power rating kW(PS)	Torque N.m(kg.m)	Fuel consumption g/kW.h(g/PS.h)
1470	366 (498)	2384 (243)	192 (141)
1760	396 (538)	2148 (219)	199 (146)
2100	407 (553)	1854 (189)	216 (159)
2350	408 (555)	1658 (169)	234 (172)

- Note : 1. The engine performance corresponds to ISO 3046.  
 2. Engines are not to be used for continuous duty. Engines are to be used only for stationary emergency standby fire pump service. According to NFPA 25 engines are to be tested 30 minutes per week at no pump flow and full pump flow once per year.  
 3. If needs continuous duty, Engine power is restricted to 353kW(480ps)@1800rpm.



## ◎ MECHANICAL SYSTEM

- Engine Model PU158TI Fire Pump Driver
- Engine Type V-type 4 cycle, water cooled  
Turbo charged & intercooled
- 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.(in<sup>3</sup>)
- Compression ratio 14.6 : 1
- Firing order 1-5-7-2-6-3-4-8
- Injection timing 18° BTDC
- Dry weight Approx. 1,000 kg (2,205 lb)
- Dimension 1,229 x 1,140 x 1,205 mm  
(48.4 x 44.9 x 47.4 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 |

## ◎ ENGINE EQUIPMENT

- Engine parts Fly wheel & housing  
Intake & exhaust manifold  
Water to air inter cooler
- Electrical parts Stop solenoid of ETS type (only EAZPB)

## ◎ FUEL SYSTEM

- Injection pump Bosch in-line "P" type
- Governor Mechanical type (only EAZPB)  
Electrical type (only EAZPC)
- 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 28 liters ( 7.40 gal.)  
Low level 26 liters ( 6.86 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)
- Water pump Centrifugal type driven by belt
- Water pump Capacity 653 liters ( 173 gal.)/min  
at 2,350 rpm (engine)
- Thermostat Wax – pellet type  
Opening temp. 71°C  
Full open temp. 85°C
- Water flow in intercooler
  - Critical velocity 2.0 m/s max.
  - Pressure drop 0.1 bar

# PU158TI Fire Pump Driver

### ⊙ ELECTRICAL SYSTEM

- Charging generator      28.5V 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

### ⊙ NOISE DATA

- Test Standards          ISO-3744 / JIS-B8005
- Test Condition          1m at the Cylinder Block
- Calculated sound pressure

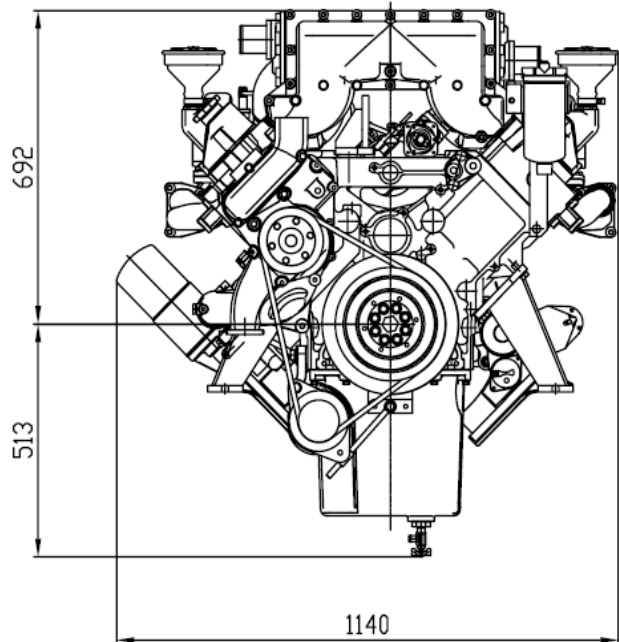
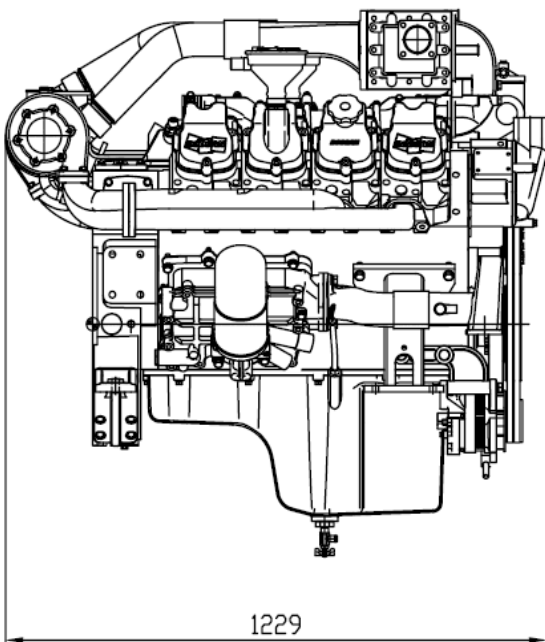
RPM	Power [PS]	Octave Band [dB(A)]
1760	538	100.0
2100	553	103.0
2350	555	104.5

### ◆ 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

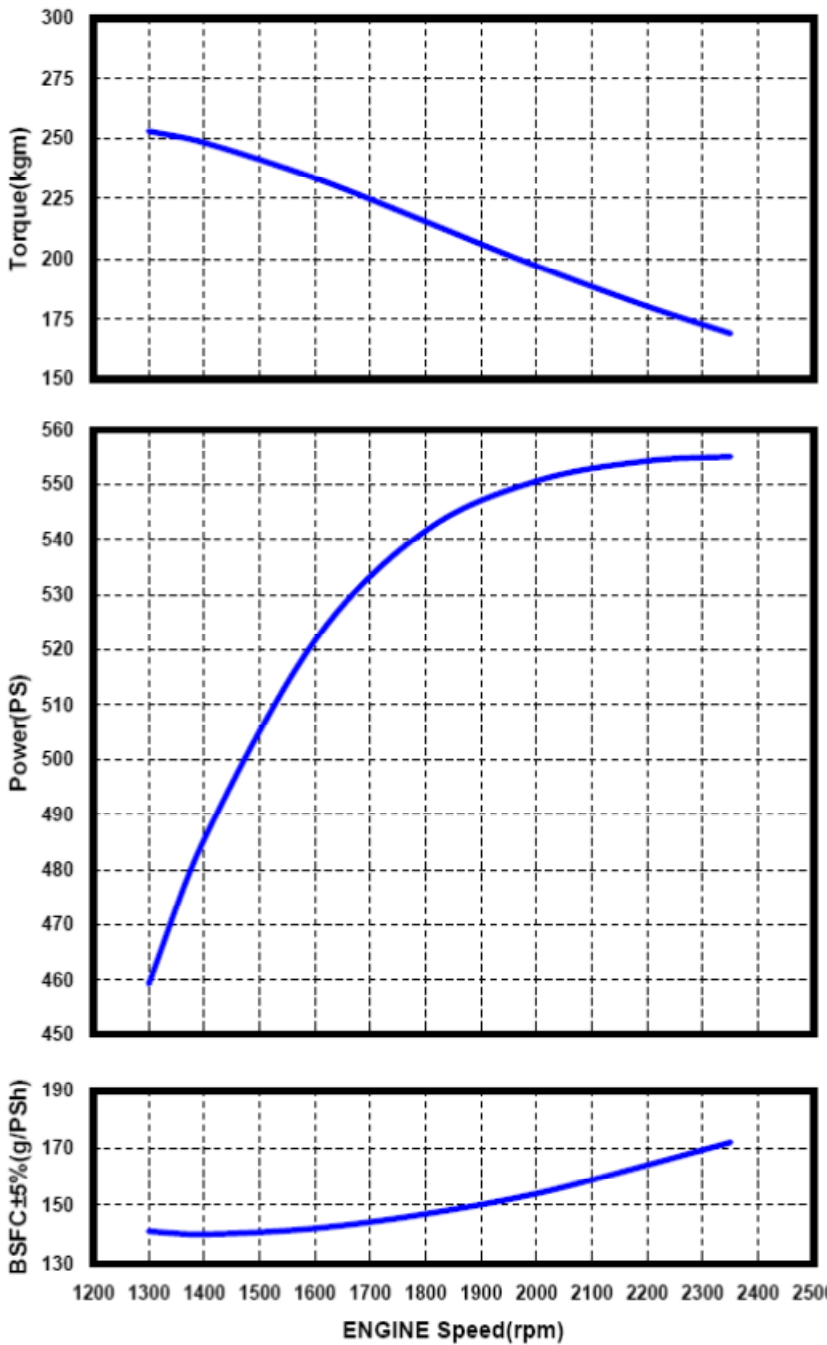
### ⊙ ENGINEERING DATA

- Water flow                      653 liters/min @2,350 rpm  
584 liters/min @2,100 rpm  
489 liters/min @1,760 rpm
- Heat rejection to coolant    53.3 kcal/sec @2,350 rpm  
47.6 kcal/sec @2,100 rpm  
39.9 kcal/sec @1,760 rpm
- Heat rejection to CAC        30.2 kcal/sec @2,350 rpm  
27 kcal/sec @2,100 rpm  
20.6 kcal/sec @1,760 rpm
- Air flow                            52.6 m<sup>3</sup>/min @2,350 rpm  
49.2 m<sup>3</sup>/min @2,100 rpm  
44.1 m<sup>3</sup>/min @1,760 rpm
- Exhaust gas flow              93.7 m<sup>3</sup>/min @2,350 rpm  
81.1 m<sup>3</sup>/min @2,100 rpm  
70.3 m<sup>3</sup>/min @1,760 rpm
- Exhaust gas temp.            572 °C @2,350 rpm  
529 °C @2,100 rpm  
512 °C @1,760 rpm
- Max. permissible restrictions
  - Intake system                220 mmH<sub>2</sub>O initial  
635 mmH<sub>2</sub>O final
  - Exhaust system              1000 mmH<sub>2</sub>O max.



# PU158TI Fire Pump Driver

## ◎ PERFORMANCE CURVE



All data is based on the engine operating with fuel system, water pump, lubricating oil pump, air cleaner, and alternator; not included are compressor, fan, optional equipment, and driven components.

Data is based on operation at ISO standard 3046 conditions of 100 kPa barometric pressure, 100 m altitude, and 25 °C intake ambient temperature.

For sustained operation at high altitudes, the fuel rate of the engine should be adjusted to limit performance by 3 % per 300 m above 100 m altitude.

For sustained operation at high ambient temperatures, the fuel rate of the engine should be adjusted to limit performance by 2 % per 11 °C above 25 °C.

Engine is certified at any speed between 1470 and 2350 RPM.



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※ Specifications are subject to change without prior notice