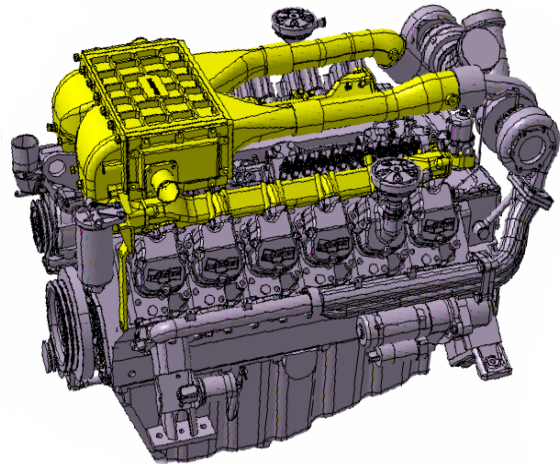


◎ POWER RATING

RPM	Power rating kW(PS)	Torque N.m(kg.m)	Fuel consumption g/kW.h(g/PS.h)
1470	564 (767)	3668 (374)	192 (141)
1760	610 (829)	3305 (337)	199 (146)
2100	622 (846)	2834 (289)	216 (159)
2350	625 (850)	2540 (259)	232 (171)

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.



◎ MECHANICAL SYSTEM

- Engine Model PU222TI 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 12
- Bore x stroke 128(5.04) x 142(5.59) mm(in.)
- Displacement 21.927 (1,338.0) lit.(in³)
- Compression ratio 14.6 : 1
- Firing order 1-12-5-8-3-10-6-7-2-11-4-9
- Injection timing 18° BTDC
- Dry weight Approx. 1,650 kg (3,638 lb)
- Dimension 1,453 x 1,140 x 1,292 mm
(57.2 x 44.9 x 50.9 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 EAYPB)

◎ FUEL SYSTEM

- Injection pump Bosch in-line "P" type
- Governor Mechanical type (only EAYPB)
Electrical type (only EAYPD)
- 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

◎ COOLING SYSTEM

- Cooling method Fresh water forced circulation
- Water capacity 23 liters (6.07 gal.)
(engine only)
- Water pump Centrifugal type driven by belt
- Water pump Capacity 702 liters (185 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

PU222TI 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

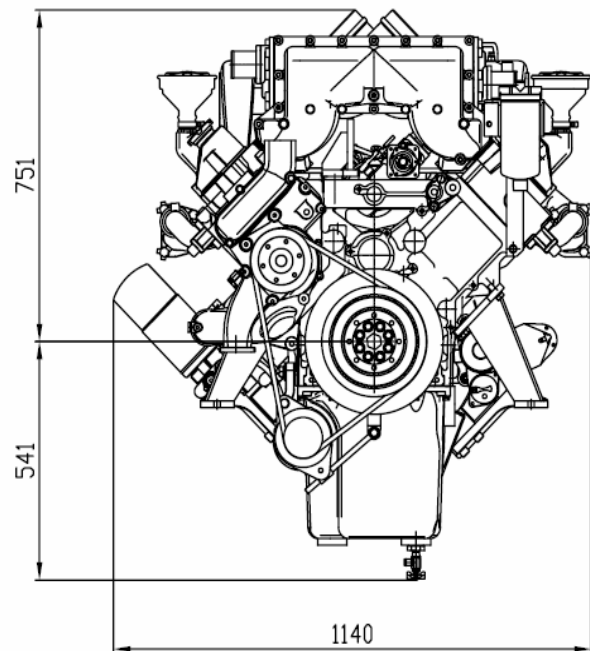
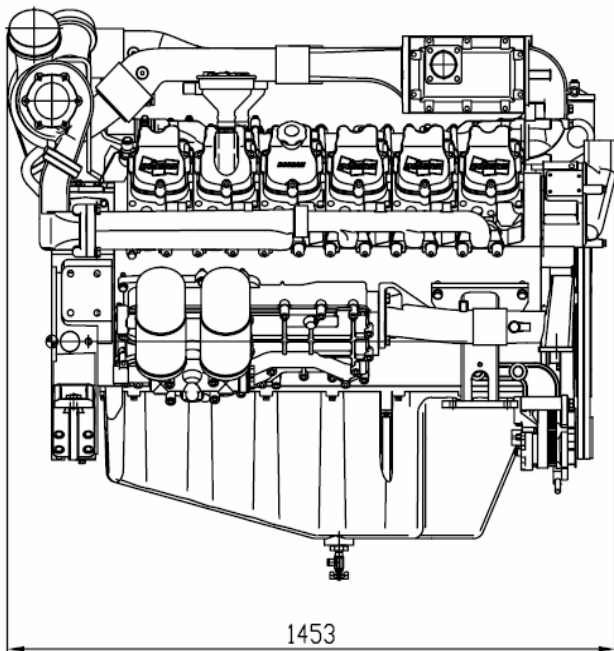
RPM	Power [PS]	Octave Band [dB(A)]
1760	829	104.3
2100	846	107.0
2350	850	108.4

◆ 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/cm² x 14.2233 kW = 0.2388 kcal/s
- in³ = lit. x 61.02 lb/PS.h = g/kW.h x 0.00162
- hp = PS x 0.98635 cfm = m³/min x 35.336
- lb = kg x 2.20462

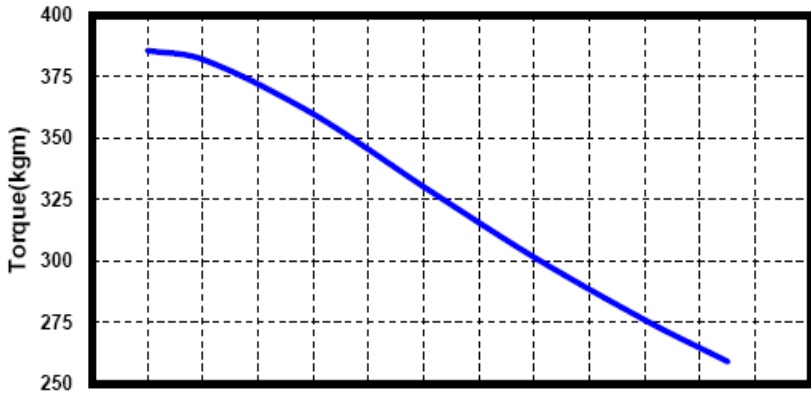
◎ ENGINEERING DATA

- Water flow 702 liters/min @2,350 rpm
627 liters/min @2,100 rpm
526 liters/min @1,760 rpm
- Heat rejection to coolant 57.2 kcal/sec @2,350 rpm
40.9 kcal/sec @2,100 rpm
34.3 kcal/sec @1,760 rpm
- Heat rejection to CAC 39.3 kcal/sec @2,350 rpm
33.7 kcal/sec @2,100 rpm
25.0 kcal/sec @1,760 rpm
- Air flow 76.1 m³/min @2,350 rpm
70.4 m³/min @2,100 rpm
63.2 m³/min @1,760 rpm
- Exhaust gas flow 131.5 m³/min @2,350 rpm
119.2 m³/min @2,100 rpm
108.2 m³/min @1,760 rpm
- Exhaust gas temp. 555 °C @2,350 rpm
543 °C @2,100 rpm
549 °C @1,760 rpm
- Max. permissible restrictions
 - Intake system 220 mmH₂O initial
635 mmH₂O final
 - Exhaust system 600 mmH₂O max.



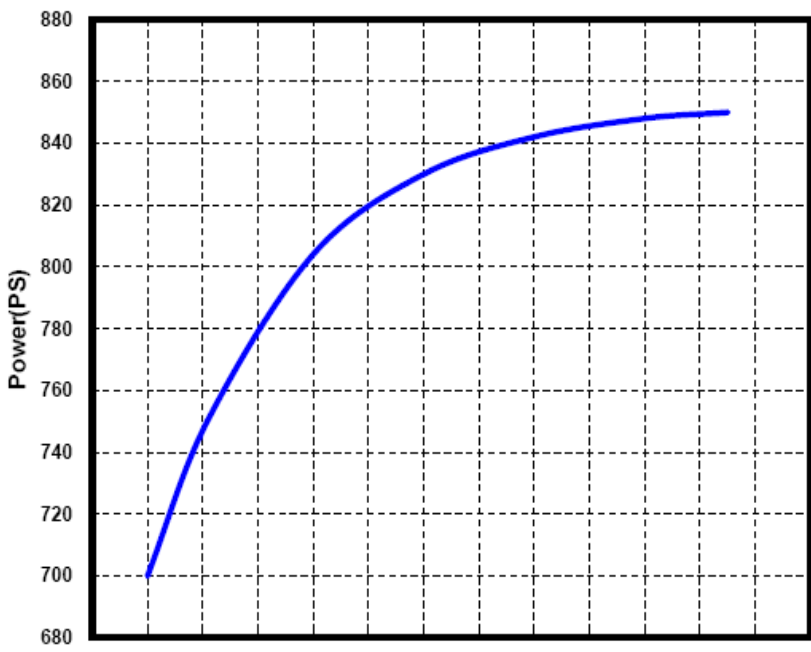
PU222TI Fire Pump Driver

◎ PERFORMANCE CURVE

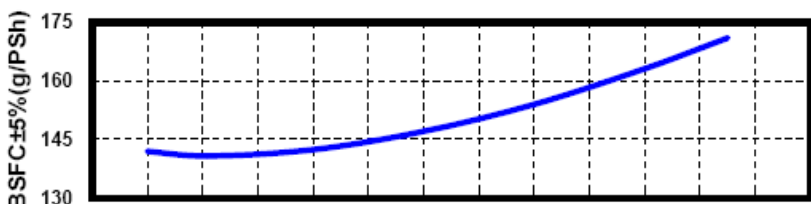


All data is based on the engine operating with fuel system, water pump, lubricating oil pump, air cleaner, and alternator; not included are compressor, fan, optional equipment, and driven components.

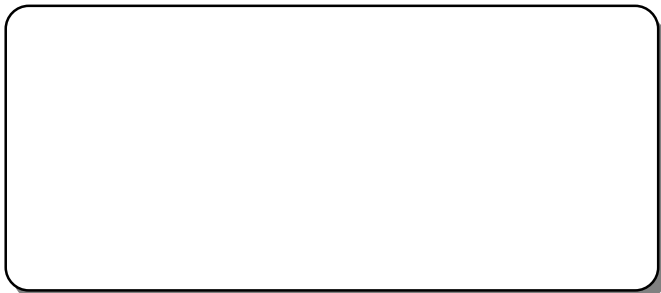
Data is based on operation at ISO standard 3046 conditions of 100 kPa barometric pressure, 100 m altitude, and 25 °C intake ambient temperature.



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



ENGINE Speed (rpm)



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※ Specifications are subject to change without prior notice