

Ratings

| RPM | Gross Engine Output | | |
|------|---------------------|---------|---------|
| | COP kWm | PRP kWm | ESP kWm |
| 1800 | 460 | 575 | 633 |

Basic Data

| | |
|---|------------------------------|
| Engine model | 6M33G520/6 |
| N° of Cylinders / Valves | 6/24 |
| Bore x Stroke (mm) | 150x185 |
| Displacement (L) | 19.6 |
| Fuel System | Mechanical Pump |
| Aspiration | Turbocharged and Aftercooled |
| Compression ratio | 15 : 1 |
| Flywheel housing | SAE 1 |
| Flywheel | 14" |
| N° Of teeth on flywheel ring gear | 178 |
| Inertia of flywheel (kg·m ²) | 4.76 |
| Inertia of crankshaft (kg·m ²) | 2.22 |
| Emission standard | N/A |
| Overall Dimensions with radiator (Length x Width x Height) (mm) | 2798x1600x1900 |
| Engine dry weight (kg) | 2090 |
| Engine wet weight (includes oil, coolant) (kg) | 2695 |

Air intake system

| | |
|--|--------|
| Air intake temperature rise (°C) | ≤5 |
| Air intake restriction Clean filter (Bar) | ≤0.03 |
| Air intake restriction Dirty filter (Bar) | ≤0.065 |
| Recommended air flow @ PRP (m ³ /sec) | 0.75 |
| Recommended air flow @ ESP (m ³ /sec) | 0.79 |
| Min. diameter of intake pipe (mm) | 160 |

Inter cooling system

| | |
|---|-------|
| Intercooler heat dissipating capacity @ PRP (kJ/s) | 118.4 |
| Intercooler heat dissipating capacity @ ESP (kJ/s) | 141.2 |
| Max. intake temperature @ 25°C ambient temperature (°C) | 60 |
| Max. difference between intake temperature and ambient temperature (°C) | 21 |
| Max. intake pressure drop of intercooler (kPa) | 15 |

Cooling system

| | |
|--|-------|
| Min. inside diameter of coolant outlet pipe (mm) | 45 |
| Coolant capacity of radiator (L) | 85 |
| Coolant alarm temperature (°C) | 100 |
| Thermostat opening temp./ full open temp (°C) | 80/92 |
| Min. pressure in cooling system (Bar) | 0.5 |
| Coolant capacity of the engine (L) | 43.93 |

Exhaust system

| | |
|---|-------|
| Max. exhaust back pressure (Bar) | 0.075 |
| Max. exhaust temperature Before turbocharger (°C) | 750 |
| Max. exhaust temperature After turbocharger (°C) | 550 |
| Exhaust flow @ PRP (m ³ /sec) | 1.94 |
| Exhaust flow @ ESP (m ³ /sec) | 2.15 |
| Min. diameter of exhaust pipe (mm) | 200 |
| Max. bending moment of turbocharged flange (N·m) | 10 |

Lubrication system

| | |
|--|--------------|
| Oil Capacity Low-High (L) | 36-61 |
| Oil pressure in normal condition Idle speed (Bar) | ≥ 2 |
| Oil pressure in normal condition @ PRP (Bar) | 4 ~6.5 |
| Lowest oil pressure Alarm valve (Bar) | 2 |
| Max. oil temperature (°C) | 105 |
| Oil flow (L/min) | ≥ 316 |
| Oil fuel consumption ratio based on engine fuel consumption data | $\leq 0.3\%$ |
| Total system capacity (including filter) (L) | 61 |

Noise

| | |
|--|-------|
| Diesel engine noise (Acoustic power level) (dB(A)) | 118.1 |
|--|-------|

Fuel system

| | |
|--|-----------------------|
| Governor | Electroical |
| Max. restriction at fuel pump inlet (clean/dirty filter) (Bar) | 0.13 |
| Max. fuel return restriction (Bar) | 0.15 |
| Max. fuel inlet temperature (°C) | 45 |
| Fuel supply flow @ PRP (m ³ /sec) | 3.84×10^{-5} |
| Fuel supply flow @ ESP (m ³ /sec) | 4.31×10^{-5} |
| Min. pressure of fuel pump (Bar) | 0.35 |
| Min. diameter of inlet pipe (mm) | 10 |
| Min. diameter of return pipe (mm) | 10 |

Electrical system

| | |
|--|-------|
| Electrical system voltage (V) | 24 |
| Starter power (kW) | 8.5 |
| Battery charger current (A) | 55 |
| Max. electric resistance of the starting circuit (Ω) | 0.008 |
| Min. sectional area of wire (mm ²) | 70 |
| Min. cold start temperature Without auxiliary starting device (°C) | -5 |
| Min. cold start temperature With auxiliary starting device (°C) | -10 |

Heat balance test data (with ambient temperature 28°C)

Total heat dissipation @ ESP (kJ/s) 1521.4

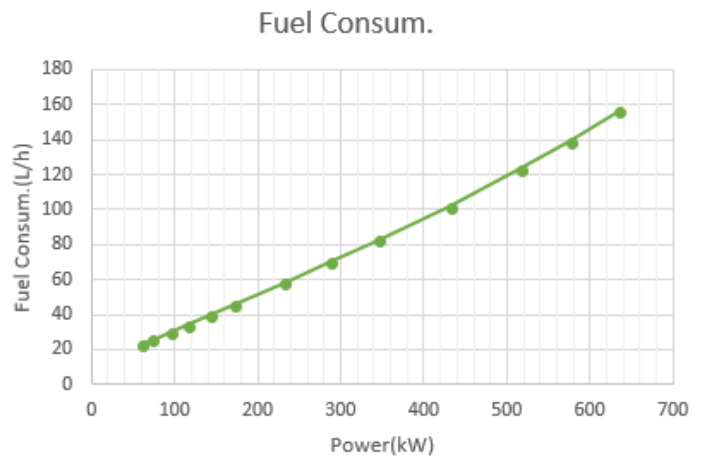
Performance data

Mean Piston Speed (m/s) 11.1

BMEP (Bar) 19.56

Fan Absorbed Power (kW) 28.5

| Rating | Fuel Consumption(L/hr) @ 1800rpm |
|---------------------------------|----------------------------------|
| ESP | 155.95 |
| 100% PRP | 139.17 |
| 75% PRP | 101.85 |
| 50% PRP | 70.33 |
| Fuel Consumption tolerance + 3% | |



Ratings Definitions

Emergency Standby Power (ESP)

Engines of this rating provide power output with a varying load for the duration of a main power network failure. The average load factor should not exceed 70% of the engine's standby power rating. Typical operational hours of the engine is 200 hours, with a maximum expected usage of 500 hours. This includes an annual maximum of 25 hours per year at the standby power rating. No overload capability is allowed. The engine is not to be used for maintained utility paralleling applications.

Unlimited Prime Rated Power (PRP)

Engines of this rating provide unlimited hours of usage in a variable load application. The average load factor should not exceed 70% of the engine's prime power rating; with a maximum number of 500 operational hours at 100% prime power rating. An overload capability of 10% is available, however, is limited to a period of 1 in every 12 hours.

Continuous Power (COP)

Engines of this rating provide unlimited hours of usage per year at a constant 100% load factor. No overload capability is allowed.

- 1) The power ratings are in accordance with ISO 3046.
- 2) Test conditions: 100 kPa, 25 °C air inlet temperature, relative humidity of 30%, with fuel density 0.84 kg/L.
- 3) Power output curves are based on the engine operating with fuel system, water pump and lubricating oil pump; not included are battery charging alternator, fan and optional equipment.