For Harmonious Living with Global Environment

It improves the fuel consumption and smoke generation in addition to reducing NOx emissions, which is designed so as to comply with marine environmental protection.

Normally, when NOx emissions are reduced, the fuel consumption and smoke generation will increase, adversely affecting both the environment and management. As a solution to this, YANMAR has developed "Eco Diesel", a technology that can be used to reduce NOx emissions.

Techniques for Complying with EPA Tier III & IMO Tier II

Exhaust Gas Recirculation (EGR)

In the EGR system, the internal EGR system is used. This design does not require any additional control devices as an on-site conversion to the engine itself. It is internal EGR that is performed inside the engine, and supercharger etc. that are installed to the engine are used. Such EGR systems can be used along with devices that are needed to comply with the on-site conversion to the engine itself.

![Diagram of Exhaust Gas Recirculation System](image)

Performance

755kW (1000hp) at 1600rpm in the continuous operating mode. This is the output obtained under 20-bit noise conditions, with 20 revolutions per minute. It is a system that can be used for high-speed (800-1000hp) and high-power (1000hp-1500hp) ships or even for large ships and cruise ships.

EPA Tier II, IMO Tier II

The engine is equipped with an exhaust gas recirculation system that reduces NOx emissions. The system is designed to comply with EPA Tier II and IMO Tier II standards. It is a system that can be used to reduce NOx emissions in engines that are already in use.

![Diagram of EPA Tier II and IMO Tier II](image)

![Diagram of EGR System](image)

Both mono-grade and multi-grade lubrication oils can be used.

![Diagram of Lubrication System](image)

6AYAM-ET

Continuous 555kW/755mhp

YANMAR MARINE DIESEL ENGINE

Engine Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>No. of cylinders</th>
<th>Bore</th>
<th>Stroke</th>
<th>Engine speed [min⁻¹]</th>
<th>Torque [Nm]</th>
<th>Output [kW]</th>
</tr>
</thead>
<tbody>
<tr>
<td>6AYAM-ET</td>
<td>6-cylinder</td>
<td>2000</td>
<td>150</td>
<td>180</td>
<td>2200</td>
<td>1800</td>
<td>555</td>
</tr>
</tbody>
</table>

![Diagram of Engine Specifications](image)

Note: All Data Subject to Change Without Notice.

Please consult YANMAR for local branches for details.

Printed in Japan
**YANMAR, Providing Quality Propulsion Engine Packages for Over 60 Years.**

**High Torque**

Excellent Torque Characteristics in High Speed and High Load Range Enable Stable Performance of Job Duties over All Load Ranges.

- **Operation side:**
  - Thermostat case
  - Silencer
  - Oil cooler
  - Thermostat case
  - Oil cooler
  - Alternator
  - Dipstick
  - Air starter
  - Oiler
  - Oil cooler
  - Side cover
  - Exhaust manifold
  - Turbocharger
  - Fuel injection pump
  - Lubricating oil by pass filter
  - Lubricating oil filter
  - Exhaust manifold
  - Turbocharger
  - Fuel injection pump
  - Lubricating oil by pass filter
  - Lubricating oil filter

- **Non operation side:**
  - Coolant reservoir
  - C.W. (Cold Water) Pump
  - H/T. (Hot Water) Pump
  - Oil pump
  - Water pump

**The Engine Performance Gives Following Advantages:**

1. The engine torque characteristic having near in reserve. (Line A) — Suitable working with least speed reduction against sudden load changes.
2. Wide Max. Power Range. (Line B) — Fusion of maximum power in different load ranges for either job duties.
3. Wide Fuel Consumption Range. (Line C) — Possibilities of working at different load ranges including extra heavy load.
4. Wide Medium Load Range. (Line D) — Possibilities of stable engine performance even doing other job duties.

**Toughness**

- Liner: Al-Alloy
- Piston: Al-Alloy
- Piston rings: Chrome plated
- Valve: Stainless steel
- Piston: Tufftride treatment
- Cylinder liners: "Silicard" treated

**Low Down Time**

- Early Return Inspection: Early Maintenance
- Higher inspection enables shorter time maintenance.
- Full mechanical engine management avoids the chance of delicate and expensive vibrations falling in low marine engine room conditions.
- Maintenance intervals minimizes engine down times.

**High capacity front PTO**

- Composite clutch
- Propeller
- Oil cooler
- Oil filter
- Lubrication

**YANMAR original marine gear that can be adapted to a wide range of applications**

- **High-Performance Marine Gear**
  - Explosive design in propeller, ensuring high performance and smooth operation.
  - Superior performance of propulsion engines.

- **Excellence Maintenance**
  - The robust design of the case enables the minimum load and entire shaft components to be replaced while still retaining at the load in problem, covering system can even work for 80%, 90%, 95%.

- **Marine class societies approval**
  - Accessories
    - Emergency start systems
    - Propeller shaft hull walking (seawater)

- **Optional wiring to suit classification society requirement available.**

**Optional TPE:) chamber**

- Optional chamber to suit classification society requirement available.

**High Temperature Centrifugal pump**

- Optional chamber to suit classification society requirement available.

**High & Low pressure Water Pumps**

- Optional chamber to suit classification society requirement available.

**High & Low pressure Water Pumps**

- Optional chamber to suit classification society requirement available.

**Engine speed [min-1]**

<table>
<thead>
<tr>
<th>Output [kW]</th>
<th>110%</th>
<th>120%</th>
<th>130%</th>
<th>140%</th>
<th>500</th>
<th>550</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>500</td>
<td>600</td>
<td>700</td>
</tr>
</tbody>
</table>

**Best FOC zone**

- Engine speed [min-1]
- Output [kW]

**Economical with wide min. fuel consumption range both during cruising or performing job duties.**

- A wide range propeller matching, from the passenger ship (light/medium duty) to tug boat (heavy duty), is possible.

**YANMAR overhaul program.**

- A replacement concept in YANMAR overhaul program.

**Advanced high-technology engineering & servicing to customers!**

- Adapted to a wide range of applications.
- YANMAR makes the best performance of all YANMAR engines.

**SiliCard is a surface treatment that uses a special method to embed powdered Silicon Carbide (SiC).**

- A method an artificial ceramic second only to diamond in hardness, to provide superior wear resistance and durability.

- Improved wear resistance
- Reduced oil consumption
- Reduced piston swing
- Small skirt clearance

- In combination with "Silicard" treated Cylinder liners

**Engine bed**

- Foundation bolt (M18)
- Engine mounting bracket
- Propeller shaft half coupling (counter flange)
- Pulleys

**Side jack**

- (to be supplied by ship builder)
- (for centering work)

**In addition, a cartridge system is adapted to a wide range of applications**

- In combination with "Silicard" treated Cylinder liners

**Case Plate**

- (6.30)
- (6.50)

**K=4000 4 148633-08640**

<table>
<thead>
<tr>
<th>Q’ty</th>
<th>Parts No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1243500</td>
</tr>
</tbody>
</table>

**Note: Specially arranged engine mounting bracket is to be used.**

**Heat Balances**

- (CGM)
- (CG rubber coupling)