12AYM-WGT

L-rating 1340kW | 1822hp |

Reborn V12 power you can rely on, developed from years of experience with the latest technology.

Since the 3LA and 16LA series engines were first sold in the 1980s, Yanmar has supplied more than 200,000 units around the world. Based on this success, we have developed the new 12AY series, a reliable, high-performance V12 engine designed as an all-round high-power marine diesel engine. It is a smoke-emissions-standard engine with a prolonged lifecycle design that boasts low NOx and fuel consumption thanks to a new, efficient combustion method, improved exhaust emission standards without electronic equipment, and ease of maintenance. This engine will help cut costs and reduce downtime.

It improves the fuel consumption and smoke generation in addition to reducing NOx emissions. Normally, when NOx emissions are reduced, the fuel consumption and smoke generation will increase, but this engine features a prolonged lifecycle design which is designed so as to comply with marine environmental protection. 5% FUEL SAVING.

Performance

Good Fuel Economy together with Low Emissions
The micro-structured nozzle holes of the all-new injection nozzle produces a smaller fuel oil particle and, combined with deep combustion chambers and new cylinder head design, it provides an increase in efficiency. As a result, it powers deliveries steadily, due to optimum combustion conditions being maintained across a wide operating range. And it helps directly to the benefits of exhaust emission reductions and fuel consumption. The broad operating range, eventually, makes better steady fuel order feed at acceleration.

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

IM0 Tier II Compliant / Mechanical Engine Control

For Harmonious Living with Global Environment

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YANMAR, Providing Quality Propulsion Engine Packages for Over 60 Years.

Operation side

- Fuel injection Pump
- Exhaust manifold (A bank)
- Alternator
- Exhaust manifold (B bank)
- (cast-iron, water cooled)
- collecting pipe (B bank)
- Fresh water collecting pipe (A bank)
- Intake manifold
- Fresh water
- Oil filter
- Lubricating
- Inter cooler (tube type)
- Starter (A bank)
- Fuel return

Non operation side

- Water pump
- Fresh water collector pipe (A bank)
- Fuel filter
- Flexible rubber centrifugal gear driven (Engine mounted)
- Seawater pump
- Bypass filter

Uses the same fuel pump as the six-cylinder 6AY Series for improved serviceability.

Techniques for Complying with IMO Tier II Emission Standards: Exhaust Gas Recirculation (EGR)

- In the four-stroke engine, EGR is used to reduce NOx emissions. This is achieved by introducing a portion of the engine's exhaust gas into the intake manifold, which reduces the peak flame temperature and thus lowers NOx formation.
- The EGR rate and the EGR valve position can be controlled electronically to optimize NOx reduction while maintaining engine performance.

Rubber mounts (option)

- Reduces noise and vibration
- Improves isolation

Yanmar Original Heavy Duty Fuel Injection Pump

- 2nd gear for improved sealability
- New style belt guard for increased durability

Toughness

1. Low, stable LOC (Lubricating Oil Consumption) and long overhaul interval, thanks to Silicard (kind of artificial ceramic)

- Excellent Torque-Rise Characteristics in High Speed
- High Torque

- SiliCard is a surface treatment that uses a special method to embed powdered Silicon Carbide (SiC), an artificial ceramic second only to diamond in hardness, to provide superior wear resistance and durability.

- 1. Low, stable LOC (Lubricating Oil Consumption) and long overhaul interval, thanks to Silicard
- 2. Full mechanical engine management avoids the chance of delicate and expensive electronics failing in hot, marine engine room conditions.
- 3. Individual cylinder heads for each cylinder.
- 4. Pistons and piston rings are precision engineered to provide reduced wear and improved efficiency.

Lower Down Time

- Easier Routine Inspection, Easier Maintenance.
- Large Inspection windows and the bike type harness are provided for easy replacement of parts.
- Full mechanical engine management avoids the chance of delicate and expensive electronics failing in hot, marine engine room conditions.
- Belt drive is standard for easier maintenance.
- Manual lanyard starts for each cylinder.

Yanmar Fuel Injection Pump Factory, Osaka Plant, Shiga Prefecture, Japan

Uses the same belt guard as the 6AY Series for improved sealability.

Power(kW)

- 1000
- 1100
- 1200
- 1300
- 1400
- 1500
- 1600
- 1700
- 1800
- 1900
- 1940

Maximum power line

- This figure indicates in case of 12AYM-WGT

Economical with wide min. fuel consumption range both during

- 3. Min. Fuel Consumption Range is Wide, (Line C)
- Produces stable engine performance even doing other job duties.

- A wide range reserve power, from the passenger ship (light/medium
- duty) to tug boat (heavy duty), is possible.
- Stable cruising with least speed reduction against

- 4. Individual cylinder heads for each cylinder.
- Expensive electronics failing in hot, marine engine room conditions.
- In-site replacement of pistons.

- Reduced piston swing
- Small skirt clearance
- in combination with

- Cylinder liners
- Piston rings
- Oil: Nitrided SUS "Silicard" treated

- Produces stable engine performance even doing other job duties.

- boiler, low stable LOC (Lubricating Oil Consumption) collecting water cooled, back to office by trend of artificial ceramics to increase the life time of the engine.
- belt drive is standard for easier maintenance.
- Manual lanyard starts

- Supercharger
- EGR cooler
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