

# 6AYM-WST

H-rating 485kW [ 659mhp ]

# 6AYM-WET

M-rating 610kW [ 829mhp ] / H-rating 555kW [ 755mhp ]



Reliability,  
Efficiency, Innovation  
for Customers  
Dedicated to  
Maritime Activities.



Photograph may show optional equipment.

### Engine Specifications

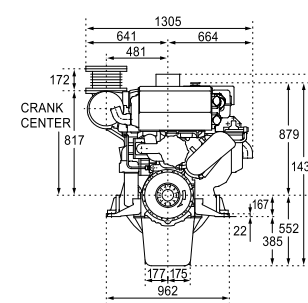
Model	6AYM-WST	6AYM-WET	
Type	4-cycle, Vertical, Turbo-charged diesel engine		
No. of cylinders	6 in-line		
Bore × stroke mm	155 × 180		
Displacement lit.	20.379		
Rated output kW(hp)/rpm	H:485 ( 659 ) / 1900	M:610 ( 829 ) / 1900	H:555 ( 755 ) / 1840
Fuel consumption gr/kW·hr	H:207	M:207	H:202
Direction of rotation	Counterclockwise viewed from stern ( crankshaft )		
Combustion system	Direct injection		
Cooling system	With Heat exchanger		
Lubricating system	Forced lubrication with gear pump		
Starting system	Electric starting motor ( DC 24V-8kW )		
Dry weight kg	2365		

### Marine Gear Specifications

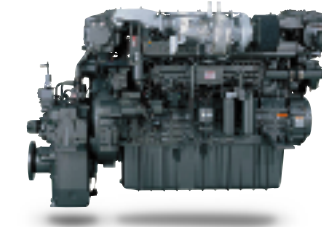
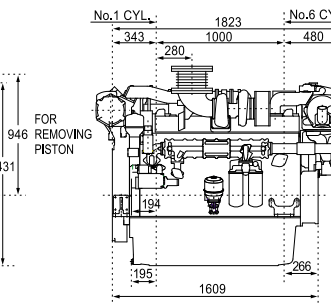
Engine Model	6AYM-WST / WET															
Marine gear model	YX-181(WST only)	YX-180L(WST only)	YXH-240(WET only)	YXH-240L												
Type	Hydraulic multi-disc clutch															
Reduction ratio	2.08	2.55	3.03	3.50	4.00	4.54	1.95	2.27	2.56	3.03	3.48	4.89	5.36	5.91	6.57	6.95
Direction of rotation	Clockwise or Counterclockwise															
Dry weight kg	560		680		645		1240									

### Dimensions ( Unit : mm )

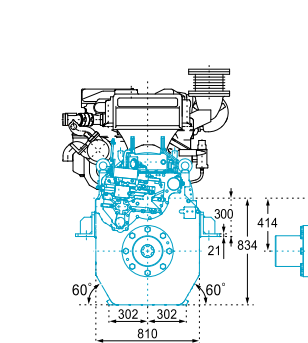
Engine only / Front view



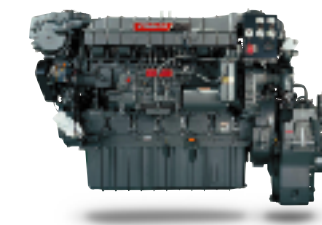
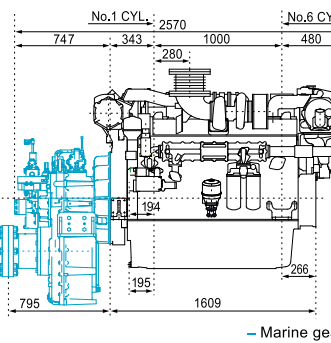
Engine only / Right side view



With YXH240L gearbox / Rear view



With YXH240L gearbox / Right side view

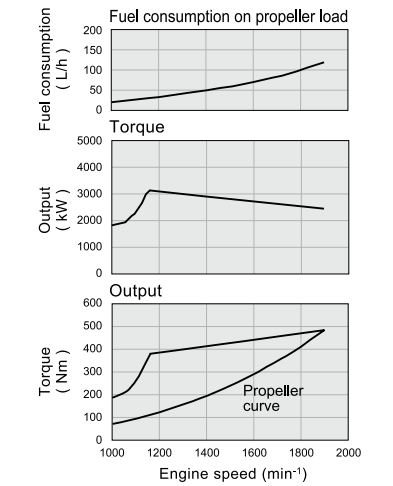


Photograph may show optional equipment.

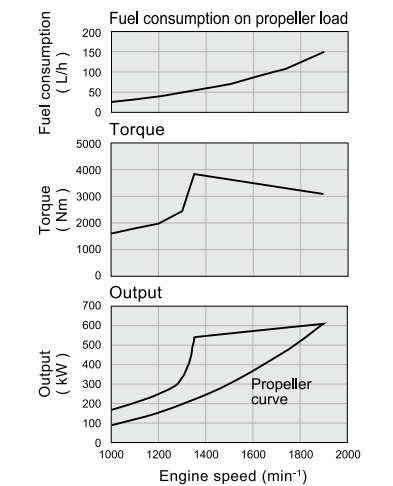
— Marine gear

### Performance Curves

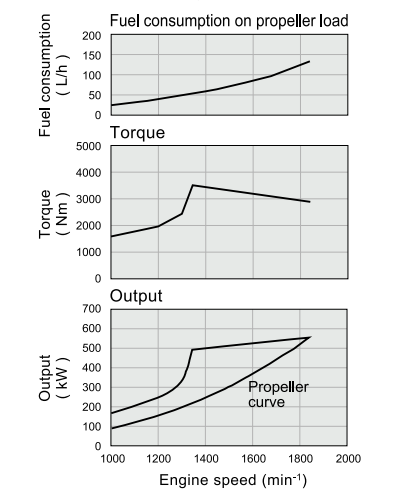
6AYM-WST ( H rating )



6AYM-WET ( M rating )



6AYM-WET ( H rating )



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Note : All data subject to change without notice.

# For Harmonious Living with Global Environment



lower fuel consumption and lower NOx emissions At the Same Time

## IMO Tier II Compliant

Lower fuel consumption  
Lower NOx emissions

Doing Our Bit for the World!

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

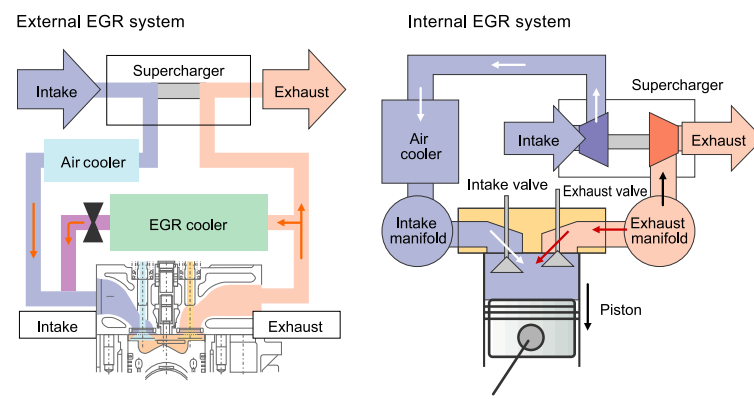


## Powerful and Friendly to People and Environment!

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

#### What is Exhaust Gas Recirculation (EGR)?

Nitrogen oxide (NOx) is generated during the combustion of a fuel and air mixture. However, if the temperature during combustion is lowered, the emission amount can be reduced. One such technique for reducing emissions is exhaust gas recirculation (EGR). In this technique, the combustion temperature is restricted by recirculating the exhaust gas back to the cylinders to lower the oxygen concentration. There are two EGR systems: external EGR and internal EGR. In external EGR, the line of the engine and supercharger must be equipped with devices such as EGR solenoid valves and coolers, and control must be performed for them. But in internal EGR, these functions can be performed by controlling the lift of the intake and exhaust valve.



©In the 6AY engine, the internal EGR system is used which significant changes to the structure are not required.

### Performance

829hp ( 610kW ) at 1900rpm in the M operating mode / 755hp ( 555kw ) at 1840 rpm H operating mode

This 180 mm long stroker 20 liter class diesel, with big breathing valves for better airflow, the high performance turbo for, less turbo lag, and better mixing at low revs, the all-new high efficiency intercooler for cooler, more compact air charging, and the numerous other performance features deliver power in large amounts over a wide operating range, especially under high load conditions.

#### Good Fuel Economy together with Lower Emissions

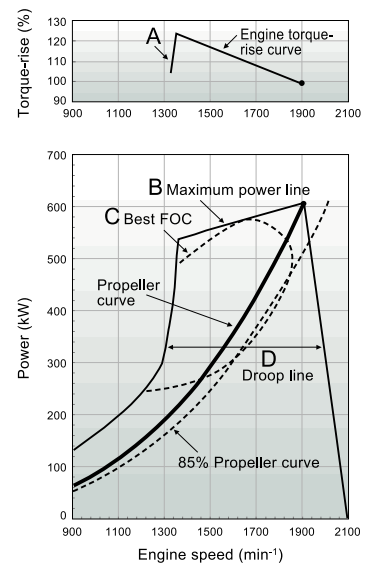
The micro-sized multiple holes in the all-new injectors produce an even finer fuel-oil mist and, combined with new perfectly matched combustion chambers and new cylinder head shapes, produce even more power. It is power delivered smoothly, due to optimum combustion conditions being maintained across a far wider operating range. And it leads directly to the bonus of lower exhaust emissions and lower fuel consumption. The boost compensator dramatically reduces black smoke under hard acceleration.

### High Torque

Excellent Torque-Rise Characteristics in High Speed and High Load Range Enable Stable Performance of Job Duties even at High Load

#### The Engine Performance Gives Following Advantages:

1. The engine torque-rise characteristics having much in reserve, ( Line A )  
→ Stable cruising with least speed reduction against sudden load changes.
2. Wide Max. Power Range, ( Line B )  
→ A wide range propeller matching, from the passenger ship (light/medium duty) to tug boat (heavy duty), is possible.
3. Min. Fuel Consumption Range is Wide, ( Line C )  
→ Economical with wide min. fuel consumption range both during cruising or performing job duties.
4. Wide Medium Load Range, ( Line D )  
→ Produces stable engine performance even doing other job duties.



This figure indicate in case of 6AYM-WET (M-rating)

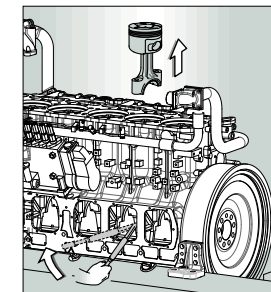
### Toughness

1. Designed for marine use.
2. Type Approved by Class Societies.
3. Low, stable LOC (Lubricating Oil Consumption) and long overhaul interval.
4. Tuffride treatment cylinder liner and nitrided stainless steel rings and the finely judged clearance between piston and liner.
5. Special treatment injection nozzle.

### Safety

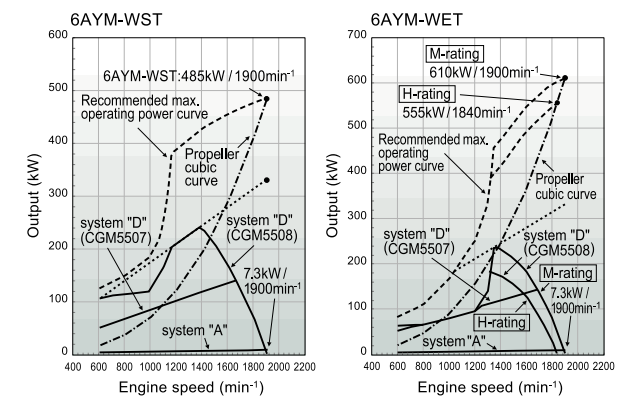
#### Easier Routine Inspection, Easier Maintenance.

Large inspection windows on the side of the block allow in-site replacement of pistons. Lube Oil filter is easy-to-replace cartridge type. Full mechanical engine management avoids the chance of delicate and expensive electronics failing in hot, marine engine room conditions. Maintenance is simplified, inspection and replacement costs are lower. Reliability and durability are enhanced. Engine is user-friendly.



### High capacity front PTO

It makes various applications possible. for your professional activities on the sea.



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

YANMAR provides our original gearbox, which enables us to supply total marine engineering & servicing to customers!

#### High-Performance Marine Gear

YANMAR's original marine gear is designed to draw out best performance of YANMAR engines.

#### Easier Maintenance

The 3-part structure of the case enables the forward shaft and reverse shaft to be disassembled and reassembled while still installed on the boat. In addition, a cartridge system is now used for the L.O. filter.

#### Large Capacity & Long Service Life

A fiber friction plate delivers improved trolling performance and increased clutch capacity. In addition, a finer LO filter extends the service life of the bearings and moving parts.

#### Damping of Fluctuating Torque

High-performance coupling reduces the fluctuating torque that is input to the marine gear. They reduce rattling and prevent torsional vibration to protect the power transmission parts.

