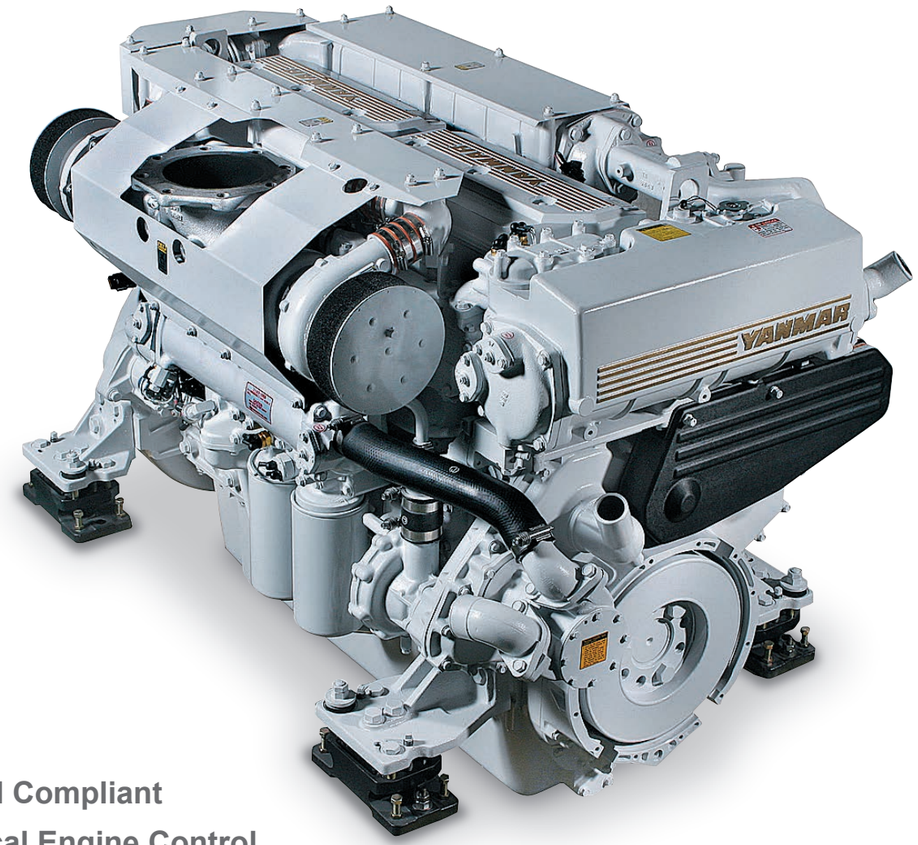
YANMAR

MARINE DIESEL ENGINE

6HYM-WET

S-rating 515kW [700mhp] (Planing craft Application)
L-rating 478kW [650mhp] / M-rating 441kW [600mhp]



IMO TierII Compliant

Mechanical Engine Control

Photograph may show optional equipment.

650mhp

700mhp

LONG STROKE

Engine Specifications

Model	6HYM-WET		
Type	4-cycle, Vertical, Turbo-charged with sea watercooled intercooler diesel engine		
No. of cylinders, Bore × stroke mm	6 in-line, 132.9×165		
Displacement lit.	13.733		
Ratedoutput kW(hp) / min⁻¹(rpm)	S: 515 (700) / 2200	L: 478 (650) / 2150	M: 441 (600) / 2100
Emission	IMO Tier II		
Fuel consumption gr/kW · hr	210 (at rated output)	210 (at rated output)	207 (at rated output)
Direction of rotation	Counterclockwise viewed from stern (crankshaft)		
Combustion system	Direct injection		
Cooling system	Constant high temperature cooling with Heat exchanger		
Cooling fresh water capacity lit.	Engine:40 + Reserve tank:1.5		
Lubricating system	Forced lubrication with gear pump		
Lubricating oil capacity lit.	36		
Lubricating oil grade	SAE30, 40 or SAE15W-40		
Starting system	Electric starting motor (DC 24V-5kw)		
Flywheel housing size inch	SAE #1, 14		
Dry weight kg	1385		

Marine Gear Specifications

Engine Model	6HYM-WET					
Marine gear model	YXH-160			YX-161L		
Type	Hydraulic multi-disc clutch					
Reduction ratio	1.97	2.46	3.05	3.65	4.08	4.55
Direction of rotation	Clockwise or Counterclockwise					
Dry weight kg	390			620		

Dimensions (Unit : mm)

Engine only / Front view

Engine only / Right side view

With YXH160 gearbox / Rear view

With YXH160 gearbox / Right side view

– Marine gear

Performance Curves

6HYM-WET (S rating)

6HYM-WET (L rating)

6HYM-WET (M rating)

Rating definitions : hp=0.7355kW Ratings are based on conditions of 100kPa, 30% relative humidity at 25˚C.
S=For applications where use of rated power is less than 30 minutes continuous out of every 90 minutes
and operation is less than 1000 hours per year. When combined with a correctly matched propeller which allows
the engine rated speed to be achieved in a fully loaded vessel state,
the reduced-power operation can be at or below 50 rpm of the rated speed.
L=For applications where use of rated power is less than 2 hours continuous out of every 5 hours
and operation is less than 2000 hours per year. When combined with a correctly matched propeller which allows
the engine rated speed to be achieved in a fully loaded vessel state,
the reduced-power operation can be at or below 50 rpm of the rated speed.
M=For applications where use of rated power is less than 10 hours continuous out of every 16 hours
and operation is less than 3000 hours per year. When combined with a correctly matched propeller which allows
the engine rated speed to be achieved in a fully loaded vessel state,
the reduced-power operation can be at or below 50 rpm of the rated speed.
Fuel rates : Specific gravity 0.835g/cc, low calorific value 42700kj/kg(10200kcal/kg), Cetane No.45.

Detail of instrument panel D-type (Unit : mm)

① Switch unit
- Key switch
- Alarm buzzer
- Alarm buzzer stop switch
- Illumination switch

② Alarm lamp unit with Alarm monitor device
- Battery not charging
- C.W. high temp.
- L.O. low pressure
- Clutch oil pressure
- L.O. filter clogged
- C.W.level

③ Tachometer unit
- Tachometer with hour meter

④ Sub meter unit
- L.O. pressure meter
- C.W. temp. meter
- Boost meter (Turbo)

⑤ Clock unit
- Clock

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Note : All Data Subject to Change Without Notice.

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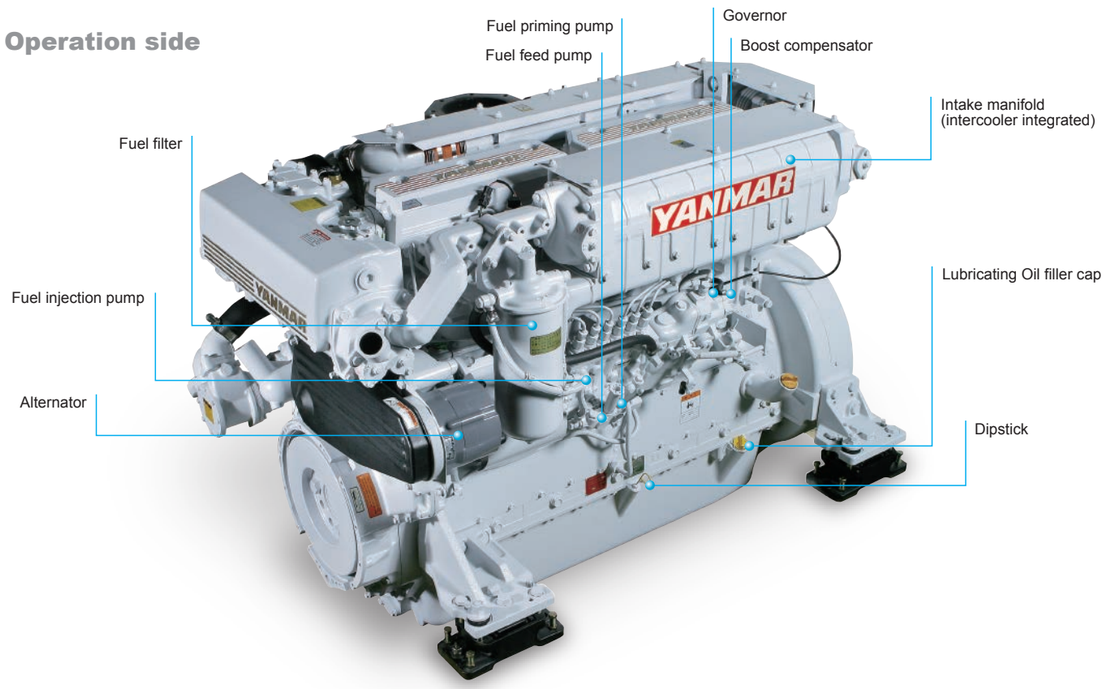
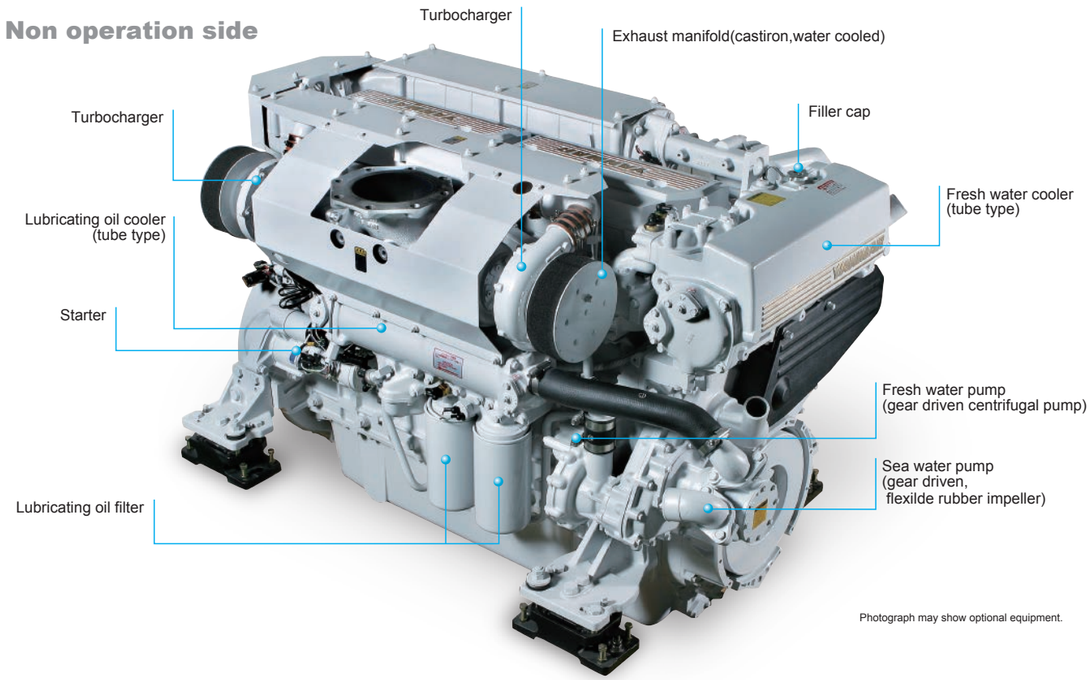
YANMAR, Providing Quality Propulsion Engine Packages for Over 60 Years.

Operation side



Non operation side



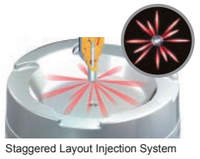
Photograph may show optional equipment.

For Harmonious Living with Global Environment

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.

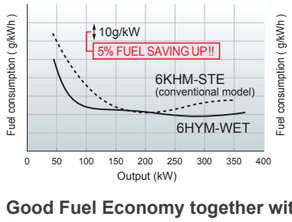
Performance

This 165 mm long stroker 14 liter class diesel, with 24 valves, the high performance small twin turbo, less turbo lag, and better mixing at low revs and the all-new high efficiency intercooler.

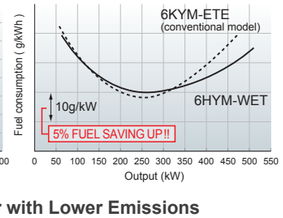


Staggered Layout Injection System

Fuel Consumption on propeller load



Fuel Consumption on propeller load



Good Fuel Economy together with Lower Emissions

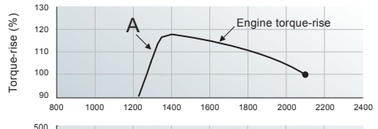
The micro-sized multiple holes in the all-new injectors produce an even finer fuel-oil mist and, combined with new perfectly matched combustion chambers and new cylinder head shapes, produce even more power. It is power delivered smoothly, due to optimum combustion conditions being maintained across 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.

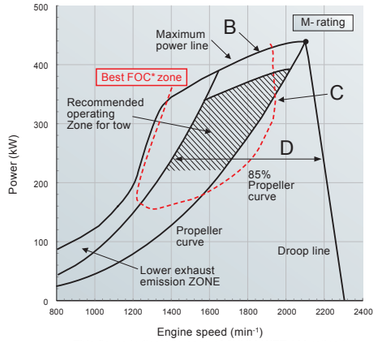
High Torque

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) Best FOC* zone
   →Economical with wide min. fuel consumption range both during cruising or performing job duties. * FOC: Fuel Oil Consumption
4. Wide Medium Load Range, (Line D)
   →Produces stable engine performance even doing other job duties.





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

Toughness

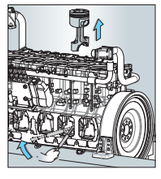
1. Low, stable LOC (Lubricating Oil Consumption) and long overhaul interval, thanks to sillicard** treatment cylinder liner and nitrided stainless steel ringsand the finely judged clearance between piston and liner. No cylinder kit replacement concept in YANMAR overhaul program.
2. Purpose built marine engine with long stroke, optimized flywheel weight, water cooled exhaust manifold and special treatment injection nozzle.
3. Type Approved by Class Societies.

** 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.

Lower Down Time

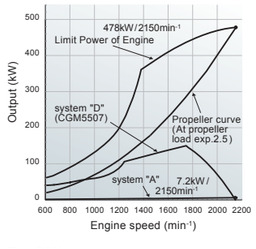
Easier Routine Inspection, Easier Maintenance.

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. 500 hours service interval.

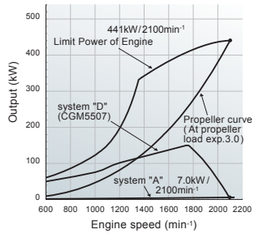


High capacity front PTO

6HYM-WET (L rating)



6HYM-WET (M rating)



Take Off Method

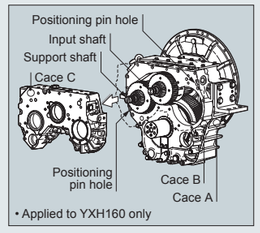
A Belt-driven without an outer bearing
D Shall have the support for bearing at both ends through the intermediary of flexible coupling (CG rubber coupling)

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.

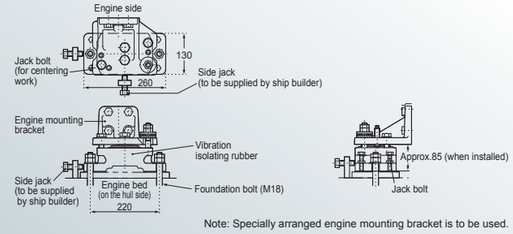
■ Easier Maintenance
The 3-part structure of the case enables the forward shaft and reverse shaft to be disassembled and reassembled while still installed on the boat. In addition, a cartridge system is now used for the L.O. filter.



• Applied to YXH160 only

■ Accessories
Optional Trolling Device BX type.
Propeller shaft half coupling (counter frange) supplied as standard.

YANMAR original rubber mounts (option)



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