

YANMAR

Solutioneering Together



MARINE DIESEL ENGINE PRODUCT GUIDE

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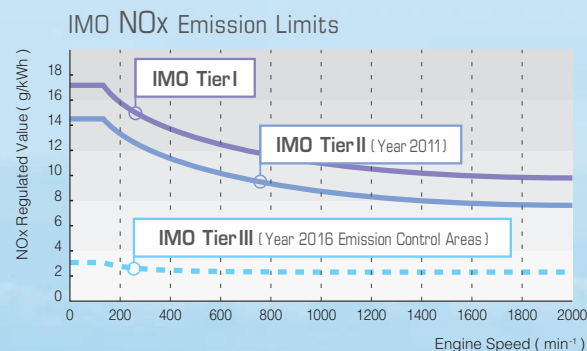
Reliability, Economical efficiency & Comfort for customers dedicated to maritime activity.

Our pride is to contribute to
tough and valuable activities
of customers on the sea.

Harmony with the Environment

— IMO Emission Limits —

The pollution of the atmosphere by hazardous substances released from marine diesel engines has become a major global issue. The release of hazardous substances into the atmosphere by ships is regulated by the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78). Annex VI: Prevention of Air Pollution from Ships was later passed in September 1997. As a result, the regulation of NO_x emission levels began for marine diesel engines with a power of above 130kW on vessels built on or after January 1,2000. A further amendment was passed in October, 2008 and engines mounted in vessels built on or after January 1,2011 face even stricter Tier II regulations. Technological solutions have been developed to overcome these regulatory challenges including engine technologies, supplementary technologies and post processing technologies. YANMAR is addressing the stricter IMO Tier II regulation NO_x limits with improvements to combustion technologies of engine.



Global Hub Factory for Marine Diesel Engines

Marine Operations Division

The YANMAR Marine Operations Division specializes in developing and producing small and medium-sized diesel engines mainly at the Tsukaguchi Plant. From processing of components for marine propulsion engines, marine auxiliary engines, land and industrial engines to assembly, rigging, and test runs, the Tsukaguchi Plant uses a consistent quality control system to produce a wide range of diesel engines. We deliver highly reliable products that thoroughly apply the technologies and expertise that we have fine-tuned over the years to markets in Japan and all over the world.



Assembly Process [Cell]



Tsukaguchi Plant

Certified by the six major classification societies.

The Tsukaguchi Plant has been certified by world's six most authoritative shipping classification societies, LRS(Lloy'ds Resister of Shipping), ABS(American Bureau of Shipping), NK(Nippon Kaiji Kyokai), BV(Bureau Veritas), RINA(Registro Italiano Navale) and KR(Korea Resister of Shipping).



Certifications of 6 major shipping classification societies

- LRS** [Lloy'ds Register of Shipping]
- ABS** [American Bureau of Shipping]
- NK** [Nippon Kaiji Kyokai]
- BV** [Bureau Veritas]
- RINA** [Registro Italiano Navale]
- KR** [Korean Register of Shipping]

The Certifications of shipping classification societies vary with the model of engine. For more information, please contact us.

MARINE PROPULSION DIESEL ENGINE

Rating definitions:
hp=0.7355kW Ratings are based on conditions of 100kPa,
30% relative humidity at 25°C.

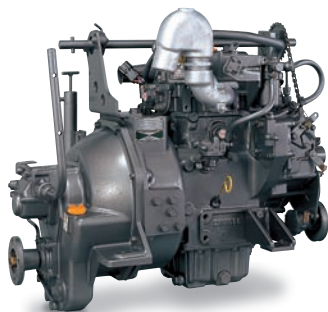
Ratings	S	L	M	H
Allowable continuous operation hours at rated power (Operation hour ratio per year)	30min or below (30% or below)	2hours or below (40% or below)	10hours or below (60% or below)	24hours or below (80% or below)
Typical total operation hours/year	500~1,000	1,000~2,000	2,000~3,000	3,000~4,000

* Please ask Yanmar or local distributor for the detail of each model.
Fuel rates: Specific gravity 0.835g/cc, low calorific value 42700kJ/kg (10200kcal/kg), Cetane No.45.

Note : All Data Subject to Change Without Notice.
Photograph may show optional equipment.

2GMY

M·L-rating 8.8~9.7kW (12.0~13.2mhp)

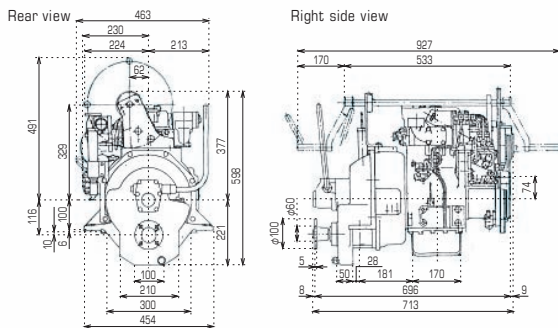


- Pre-combustion chamber. Two cylinders.
- 2GMY is equipped with mechanical marine gear.

Specifications

Model	2GMY
Number of cylinders	2 in-line
Bore × stroke	mm 72 × 72
Displacement	lit. 0.586
Rated output	M : 8.8(12.0)/3200 L : 9.7(13.2)/3300
Combustion system	Special swirl precombustion chamber
Aspiration	Natural aspirated
Starting system	Electric motor (12V 1.3kW)
Cooling system	Direct sea water cooling
Marine gear	Mechanical
Dry mass	kg 155 with Y-5M
Dimensions (L×W×H)	mm 713×463×598 with Y-5M

Dimensions Unit:mm

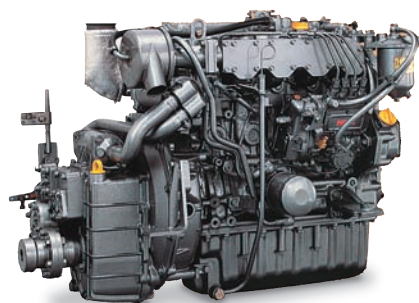


Accessories

- Exhaust pipe
- Kingston cock
- Stop cable 3m
- Battery switch
- A-type instrument panel
- Wiring harness 3m
- LO evacuation pump
- Installation parts
- Half coupling
- Standard tools

4JHYE

M·L-rating 25.7~29.4kW (35~38mhp)

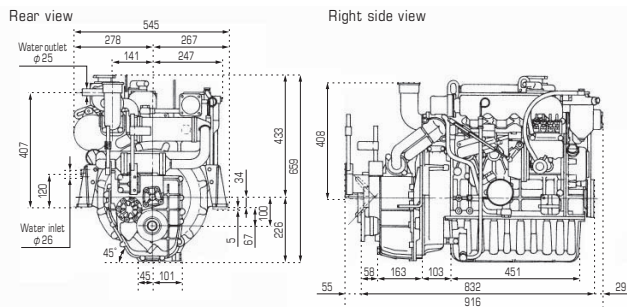


- 4-cylinder, direct injection, heat exchanger cooling.
- Natural aspiration.
- Yanmar YX marine gear is standard.

Specifications

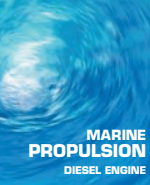
Model	4JHYE
Number of cylinders	4 in-line
Bore × stroke	mm 78 × 86
Displacement	lit. 1.644
Rated output	M : 25.7(35)/3400 L : 29.4(38)/3600
Combustion system	Direct injection
Aspiration	Natural aspirated
Starting system	Electric motor (12V 1.8kW)
Cooling system	Heat exchanger
Marine gear	Hydraulic
Dry mass	kg 243 with YX-10
Dimensions (L×W×H)	mm 916×545×659 with YX-10

Dimensions Unit:mm



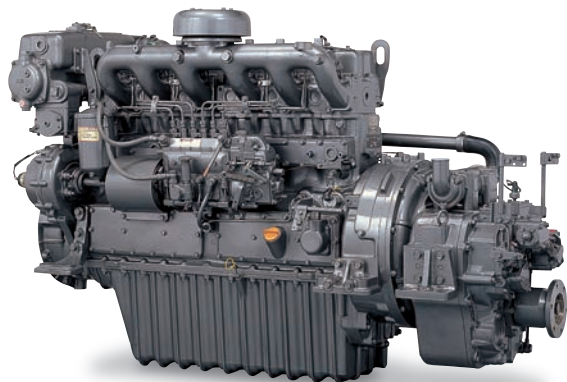
Accessories

- Exhaust pipe
- Remote control head
- Remote control cable 4m
- B-type instrument panel
- Wiring harness 4m
- Standard spare parts
- Standard tools
- Installation parts
- Battery switch
- Kingston cock
- LO evacuation pump
- FO water separator
- Bilge pump



4CHE3 / 6CHE3

M·L-rating 57.4~95.6kW (78~130mhp)



- Direct injection, heat exchanger cooling.
- Natural aspirated 4- and 6-cylinder.
- Durable hydraulic marine gear.

Specifications

Model	4CHE3	6CHE3
Number of cylinders	4 in-line	6 in-line
Bore × stroke	mm 105 × 125	
Displacement	lit. 4.330	6.494
Rated output	kW(hp)/rpm M : 57.4(78)/2550 L : 62.5(85)/2600	M : 84.6(115)/2550 L : 95.6(130)/2600
Combustion system	Direct injection	
Aspiration	Natural aspirated	
Starting system	Electric starting motor (24V 4.0kW)	
Cooling system	Heat exchanger	
Marine gear	Hydraulic	
Dry mass (with marine gear)	kg 568 (570, YX-30)	700
Dimensions(L × W × H)	mm 1183.5 × 688 × 1021 with YX20 1258 × 688 × 1022 with YX30	1496 × 690 × 1018 with YX30

Marine gear specifications

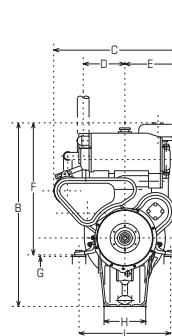
Engine model : 4CHE3・6CHE3		
Model	YX-20 (or YX-30)	YX-30
Type	Hydraulic multi-disc clutch, wet type	
Reduction ratio (Ahead)	2.03	2.55 2.96 3.48
Direction of rotation (propeller shaft)	Clockwise or counter-clockwise viewed from stern	
Dry weight	kg 68 (or 70)	70

Accessories

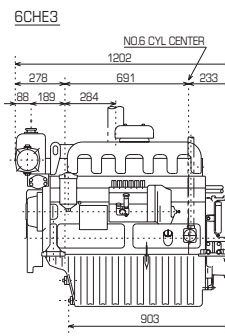
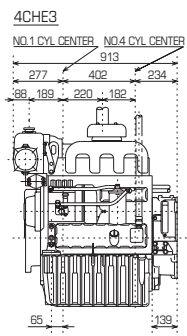
- Breather hose with fittings
- Drain separator
- Evacuation hand pump
- Fresh water sub-tank
- Alternator 600W
- Instrument panel for wheel house (B/D-type)
- Half coupling
- Standard spare parts kit
- Standard tool kit
- Operation manual

Dimensions Unit:mm

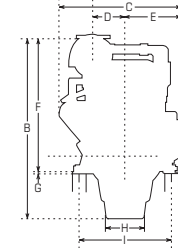
Engine only / Front view



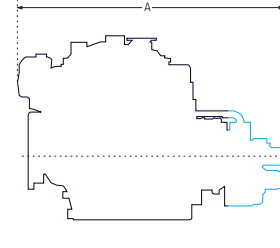
Engine only / Left side view



With gearbox / Rear view



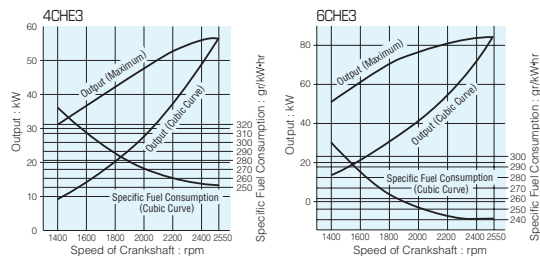
With gearbox / Left side view

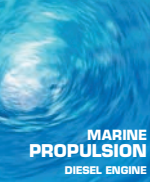


Model	A	B	C	D	E	F	G	H	I
4CHE3 × YX-20-1	1184	1021	688	232	292	734	9	234	510
4CHE3 × YX-30-2	1258	1022	688	232	292	735	9	232	510
6CHE3 × YX-30-2	1496	1018	690	233	300	737	9	233	550

— Marine gear

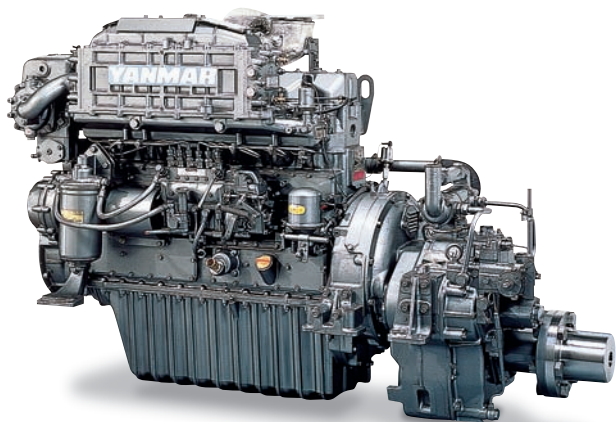
Performance curves





6CH-HTE3/WDTE/WUTE

M·L-rating 125~206kW (170~280mhp)



- Direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- Durable hydraulic marine gear.
- 6CH-WDTE and 6CH-WUTE conform to IMO Tier II emissions regulations.

Specifications

Model	6CH-HTE3	6CH-WDTE	6CH-WUTE
Number of cylinders	6 in-line		
Bore × stroke	mm 105 × 125		
Displacement	lit. 6.494		
Rated output	kW(hp)/rpm M : 125(170)/2550 L : 140(190)/2600 M : 154(210)/2550 L : 169(230)/2600 M : 188(255)/2550 L : 206(280)/2600		
Combustion system	Direct injection		
Aspiration	Turbocharger + intercooler		
Starting system	Electric starting motor (24V 4.0kW)		
Cooling system	Heat exchanger		
Marine gear	Hydraulic		
Dry mass (with marine gear)	kg 795(895, YX-71)	910	950
Dimensions(L×W×H)	mm 1575×736×1096	1600×736×1096	1600×736×1111

Marine gear specifications

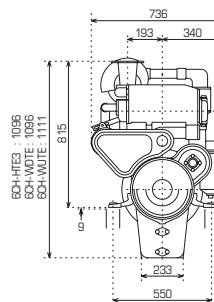
Engine model : 6CH-HTE3, 6CH-WDTE, 6CH-WUTE			
Model	YX-50S(or YX-71)	YX-71	
Type	Hydraulic multi-disc clutch, wet type		
Reduction ratio (Ahead)	2.07	2.58	2.91 3.53
Direction of rotation (propeller shaft)	Clockwise or counter-clockwise viewed from stern		
Dry weight	kg 120(or 220)	220	

Accessories

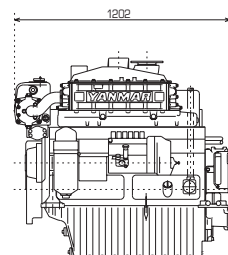
- Breather hose with fittings
- Drain separator
- Fresh water sub-tank
- Alternator 600W
- Instrument panel for wheel house (D-type)
- Half coupling
- Standard spare parts kit
- Standard tool kit
- Operation manual
- Exhaust bellows

Dimensions Unit:mm

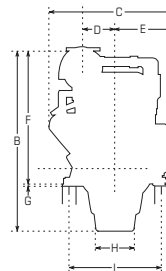
Engine only / Front view



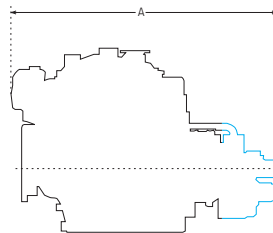
Engine only / Left side view



With gearbox / Front view



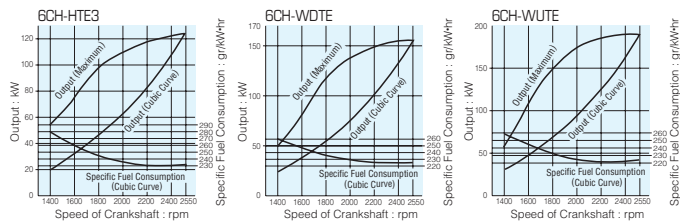
With gearbox / Left side view

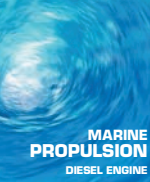


	A	B	C	D	E	F	G	H	I
6CH-HTE3×YX-50S	1575	1096	736	193	340	815	9	233	550
6CH-HTE3×YX-71	1600	1096	736	193	340	815	9	233	550
6CH-WDTE×YX-71	1600	1096	736	193	340	815	9	233	550
6CH-WUTE×YX-71	1600	1111	736	193	340	815	9	233	550

— Marine gear

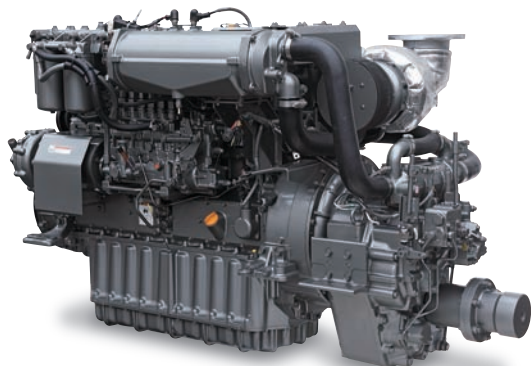
Performance curves





6CXBM-GT

H-rating 265kW (360mhp)
M-rating 294kW (400mhp)



- 6-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- Available either with marine gear or without marine gear.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.

Specifications

Model	6CXBM-GT
Number of cylinders	6 in-line
Bore × stroke	mm 110 × 130
Displacement	lit. 7.413
Rated output	kW(hp)/rpm H : 265(360)/2400 M : 294(400)/2500
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 5.0kW)
Cooling system	Heat exchanger
Dry mass (without marine gear)	kg 856
Dimensions(L×W×H)	mm 1451×901×979

Marine gear specifications

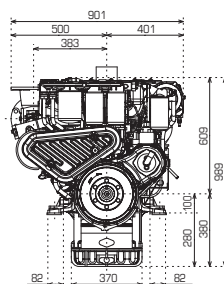
Engine model : 6CXBΜ-GT				
Model	YX-75		YXH2-130(2 speed type)	
Type	Hydraulic multi-disc clutch, wet type			
Reduction ratio (Ahead)	2.07	2.58	2.91	2.03/2.62 2.57/3.35 3.04/4.00
Direction of rotation (propeller shaft)	Clockwise or counter-clockwise viewed from stern		Counter-clockwise viewed from stern	
Dry weight	kg	204	320	

Accessories

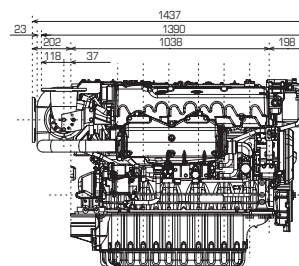
- Breather hose with fittings
- Exhaust flexible joint for T/C out
- Drain separator
- Evacuation hand pump
- Fresh water sub tank
- Instrument panel for wheel house (D-type)
- Daily maintenance tool kit
- Operation manual
- Standard spare parts
- Shallow sump
- YX gearbox

Dimensions Unit:mm

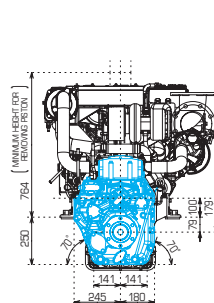
Engine only / Front view



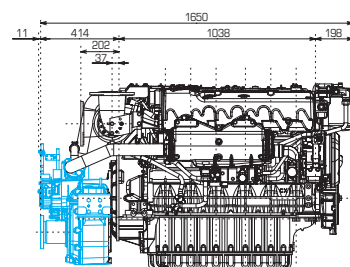
Engine only / Right side view



With YX75 gearbox / Rear view



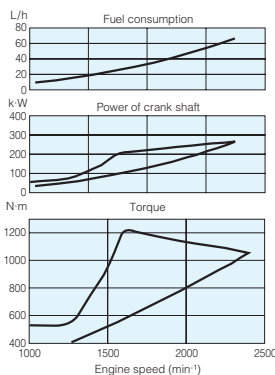
With YX75 gearbox / Right side view



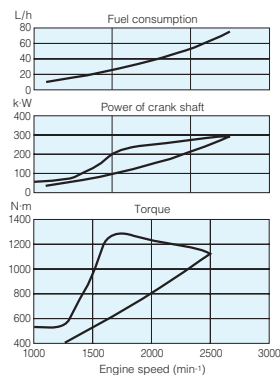
— Marine gear

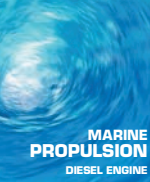
Performance curves

H-rating



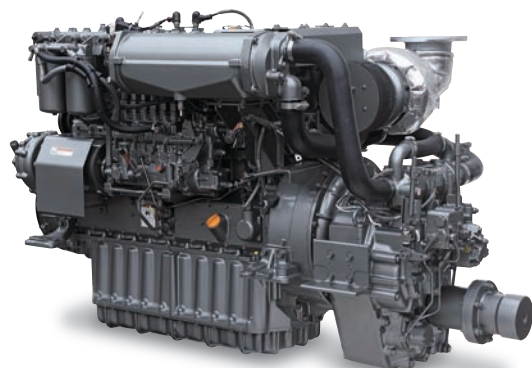
M-rating





6CXBM-GT

L-rating 341kW (464mhp)
S-rating 374kW (509mhp) (Fast Boat Application)



- 6-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- Available either with marine gear or without marine gear.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.

Specifications

Model	6CXBM-GT
Number of cylinders	6 in-line
Bore × stroke	mm 110 × 130
Displacement	lit. 7.413
Rated output	kW(hp)/rpm L : 341(464)/2700 S : 374(509)/2700
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 5.0kW)
Cooling system	Heat exchanger
Dry mass (without marine gear)	kg 856
Dimensions(L×W×H)	mm 1451×901×979

Marine gear specifications

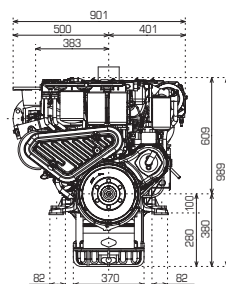
Engine model : 6CXBM-GT	
Model	YX-75
Type	Hydraulic multi-disc clutch, wet type
Reduction ratio (Ahead)	2.07 2.58 2.91
Direction of rotation (propeller shaft)	Clockwise or counter-clockwise viewed from stern
Dry weight	kg 204

Accessories

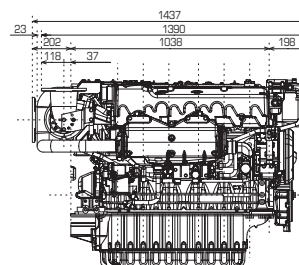
- Breather hose with fittings
- Exhaust flexible joint for T/C out
- Drain separator
- Evacuation hand pump
- Fresh water sub tank
- Instrument panel for wheel house (D-type)
- Daily maintenance tool kit
- Operation manual
- Standard spare parts
- Shallow sump
- YX gearbox

Dimensions Unit:mm

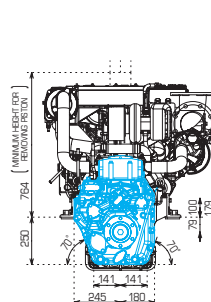
Engine only / Front view



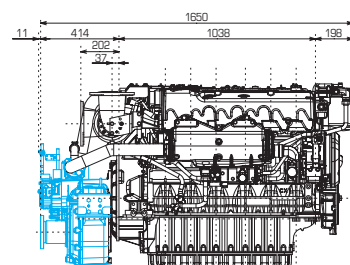
Engine only / Right side view



With YX75 gearbox / Rear view



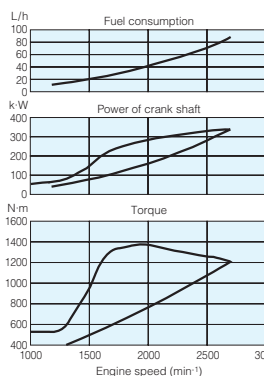
With YX75 gearbox / Right side view



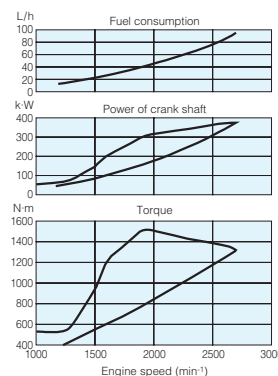
— Marine gear

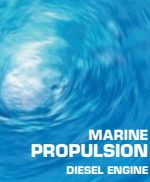
Performance curves

L-rating



S-rating





6HA2M-WHT

H-rating 204kW (278mhp)



- 6-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler models.
- Available either with marine gear or without marine gear.
- Conform to IMO Tier II emissions regulations.
- Type approved by NK, BV, GL, RINA.

Specifications

Model	6HA2M-WHT	
Number of cylinders	6 in-line	
Bore × stroke	mm	130 × 165
Displacement	lit.	13.140
Rated output	kW(hp)/rpm	H : 204(278)/1880
Combustion system	Direct injection	
Aspiration	Turbocharger + intercooler	
Starting system	Electric starting motor (24V 6.0kW)	
Cooling system	Heat exchanger	
Dry mass (without marine gear)	kg	1340
Dimensions(L×W×H)	mm	1585×1016×1260

Marine gear specifications

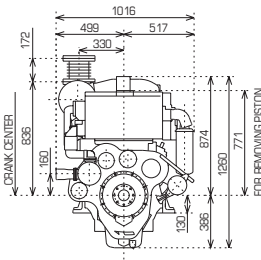
Engine model : 6HA2M-WHT						
Model	YX120				YX120L	
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	2.03	2.57	3.04	3.55	4.00	4.59
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight	kg	310			385	

Accessories

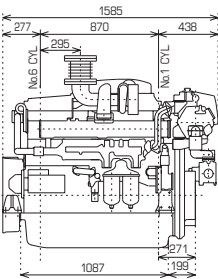
- Breather hose with fittings
- Exhaust flexible joint (T/C out)
- Evacuation hand pump
- Fresh water sub-tank
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit
- Operation manual

Dimensions Unit:mm

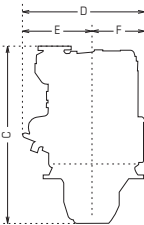
Engine only / Front view



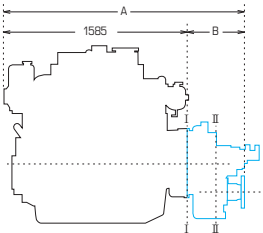
Engine only / Right side view



With YX120L gearbox / Front view



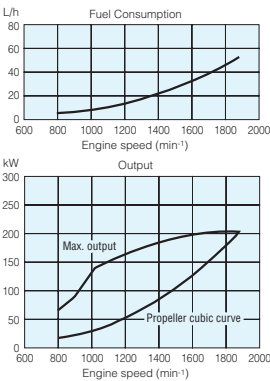
With YX120L gearbox / Left side view



Model	A	B	C	D	E	F
6HA2M-WHT×YX-120	2005	420	1272	1016	499	517
6HA2M-WHT×YX-120L	2039	454	1384	1016	499	517

— Marine gear

Performance curves

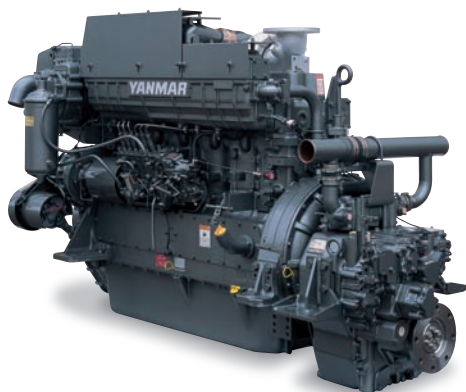


- YX gearbox
- Installation parts
- FFTO V-pulley
- Exhaust silencer
- Exhaust flexible joint for piping
- Sea water filter
- Kingston
- Bilge pump
- Duplex FO filter
- Drain separator
- 2 pole wiring
- Alternator 980W
- Remote control head & cable
- 2 station instrument panel (C-type)
- Stop solenoid
- Wiring harness
- Pipes for exhaust, sea water, fuel oil

6HA2M-WHT

M-rating 257kW (350mhp)

MARINE
PROPULSION
DIESEL ENGINE



- 6-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler models.
- Available either with marine gear or without marine gear.
- Conform to IMO Tier II emissions regulations.
- Type approved by NK, BV, GL, RINA.

Specifications

Model	6HA2M-WHT
Number of cylinders	6 in-line
Bore × stroke	mm 130 × 165
Displacement	lit. 13.140
Rated output	kW(hp)/rpm M: 257(350)/1950
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 6.0kW)
Cooling system	Heat exchanger
Dry mass (without marine gear)	kg 1340
Dimensions(L×W×H)	mm 1585×1016×1260

Marine gear specifications

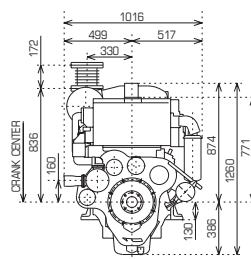
Engine model : 6HA2M-WHT						
Model	YX120				YX120L	
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	2.03	2.57	3.04	3.55	4.00	4.59
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight	kg 310				385	

Accessories

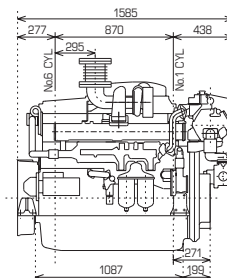
- Breather hose with fittings
- Exhaust flexible joint (T/C out)
- Evacuation hand pump
- Fresh water sub-tank
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit
- Operation manual

Dimensions Unit:mm

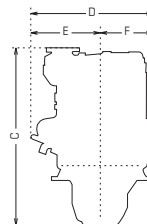
Engine only / Front view



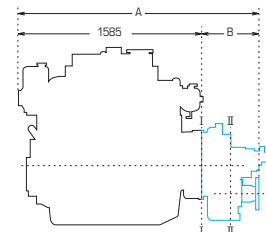
Engine only / Right side view



With YX120 gearbox / Front view



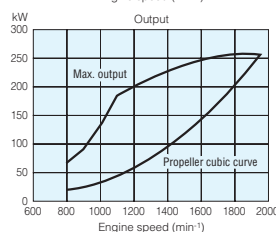
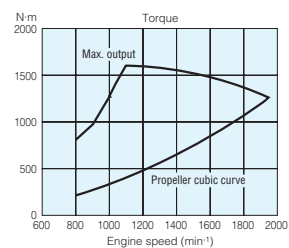
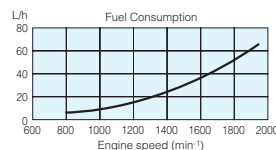
With YX120 gearbox / Left side view



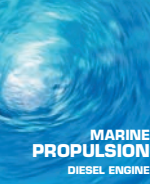
	A	B	C	D	E	F
6HA2M-WHT×YX-120	2005	420	1272	1016	499	517
6HA2M-WHT×YX-120L	2039	454	1384	1016	499	517

— Marine gear

Performance curves

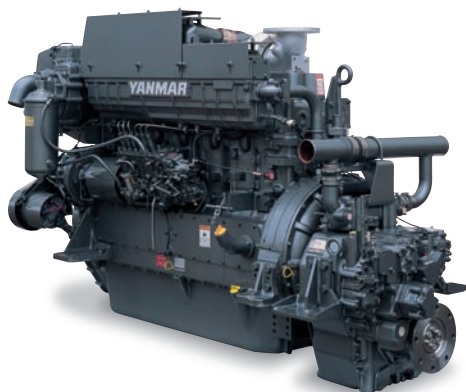


- YX gearbox
- Installation parts
- FFTO V-pulley
- Exhaust silencer
- Exhaust flexible joint for piping
- Sea water filter
- Kingston
- Bilge pump
- Duplex FO filter
- Drain separator
- 2 pole wiring
- Alternator 980W
- Remote control head & cable
- 2 station instrument panel (C-type)
- Stop solenoid
- Wiring harness
- Pipes for exhaust, sea water, fuel oil



6HA2M-WDT

M-rating 298kW (405mhp)



- 6-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler models.
- Available either with marine gear or without marine gear.
- Conform to IMO Tier II emissions regulations.
- Type approved by NK, BV, GL, RINA.

Specifications

Model	6HA2M-WDT		
Number of cylinders	6 in-line		
Bore × stroke	mm	130 × 165	
Displacement	lit.	13.140	
Rated output	kW(hp)/rpm	M: 298(405)/1950	
Combustion system	Direct injection		
Aspiration	Turbocharger + intercooler		
Starting system	Electric starting motor (24V 6.0kW)		
Cooling system	Heat exchanger		
Dry mass (without marine gear)	kg	1350	
Dimensions(L × W × H)	mm	1586 × 1037 × 1260	

Marine gear specifications

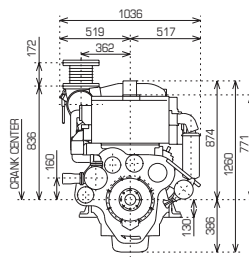
Engine model : 6HA2M-WDT						
Model	YX120			YX120L		
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	2.03	2.57	3.04	3.46	4.00	4.59
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight	kg	310			385	

Accessories

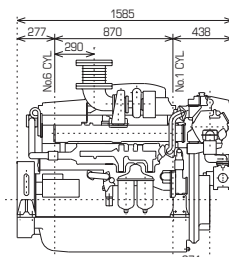
- Breather hose with fittings
- Exhaust flexible joint (T/C out)
- Evacuation hand pump
- Fresh water sub-tank
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit
- Operation manual

Dimensions Unit:mm

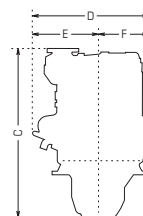
Engine only / Front view



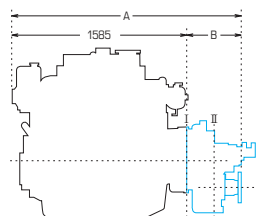
Engine only / Left side view



With YX120 gearbox / Front view



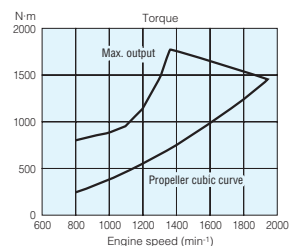
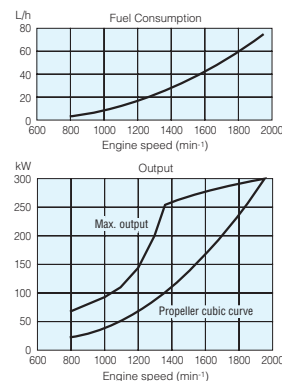
With YX120 gearbox / Left side view



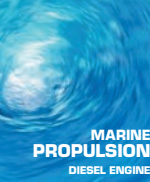
	A	B	C	D	E	F
6HA2M-WDT×YX-120	2005	420	1272	1036	519	517
6HA2M-WDT×YX-120L	2039	454	1384	1036	519	517

— Marine gear

Performance curves

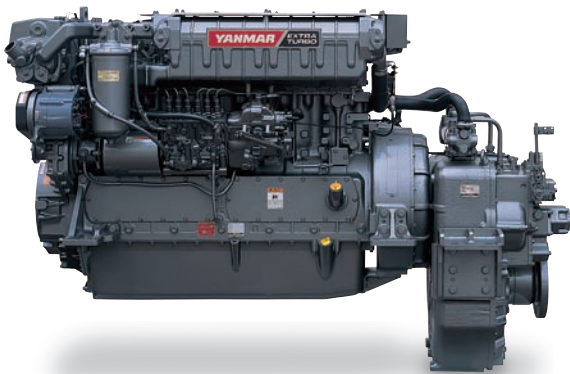


- YX gearbox
- Installation parts
- FFTO V-pulley
- Exhaust silencer
- Exhaust flexible joint for piping
- Sea water filter
- Kingston
- Bilge pump
- Duplex FO filter
- Drain separator
- 2 pole wiring
- Alternator 980W
- Remote control head & cable
- 2 station instrument panel (C-type)
- Stop solenoid
- Wiring harness
- Pipes for exhaust, sea water, fuel oil



6HYM-WET

H-rating 368kW (500mhp)



- 6-cylinder, direct injection, heat exchanger cooling.
- Twin-turbocharger + intercooler.
- Available either with marine gear or without marine gear.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.
- Type approved by NK, BV, RINA.

Specifications

Model	6HYM-WET H-rating
Number of cylinders	6 in-line
Bore × stroke	mm 132.9 × 165
Displacement	lit. 13.733
Rated output	kW(hp)/rpm 368(500)/1950
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 6.0kW)
Cooling system	Heat exchanger
Dry mass	kg 1385(without marine gear)
Dimensions(L×W×H)	mm 1556×1014×1133

Marine gear specifications

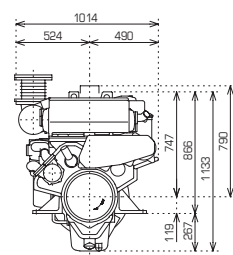
Engine model : 6HYM-WET H-rating					
Model	YXH-160		YX-161L		
Type	Hydraulic multi-disc clutch				
Reduction ratio (Ahead)	1.97	246	3.05	3.65	4.08 4.55
Direction of rotation (propeller shaft)	Clockwise or counterclockwise				
Dry weight	kg 390		620		

Accessories

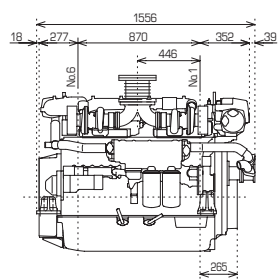
- Breather hose with fittings
- Fresh water sub-tank
- Alternator 980W
- 2 pole wiring
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit
- Operation manual
- YX gearbox
- Remote control head & cable
- Wiring harness
- 2 station instrument panel (C-type)
- Installation parts
- FPFO V-pulley
- Double walled FO pipes
- Duplex FO filter

Dimensions Unit:mm

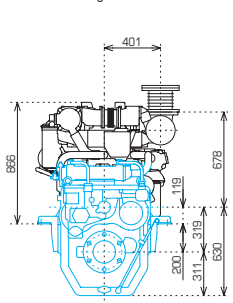
Engine only / Front view



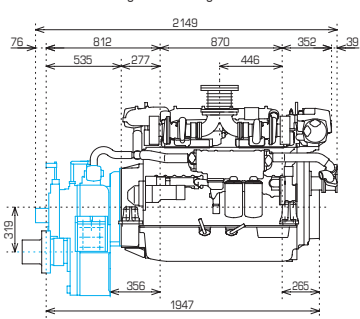
Engine only / Right side view



With YX161L gearbox / Rear view

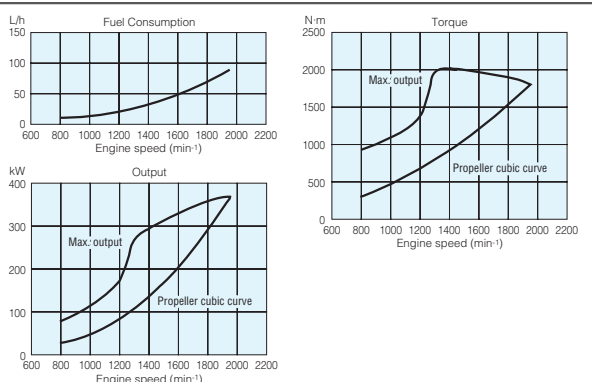


With YX161L gearbox / Right side view

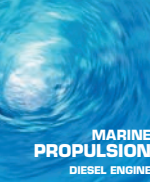


— Marine gear

Performance curves

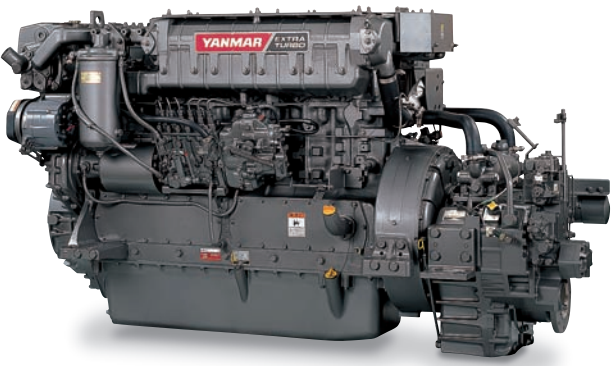


- Flexible joint at T/C outlet
- Flexible joint for piping
- Exhaust silencer
- Battery switch
- Pipes for sea water, fuel oil



6HYM-WET

M-rating 441kW (600mhp)
L-rating 478kW (650mhp)



- 6-cylinder, direct injection, heat exchanger cooling.
- Twin-turbocharger + intercooler.
- Available either with marine gear or without marine gear.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.
- Type approved by NK, BV, RINA.

Specifications

Model	6HYM-WET M-rating / L-rating
Number of cylinders	6 in-line
Bore × stroke	mm 132.9 × 165
Displacement	lit. 13.733
Rated output	kW(hp)/rpm M : 441(600)/2100 L : 478(650)/2150
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 6.0kW)
Cooling system	Heat exchanger
Dry mass	kg 1385(without marine gear)
Dimensions(L×W×H)	mm 1556×1014×1133

Marine gear specifications

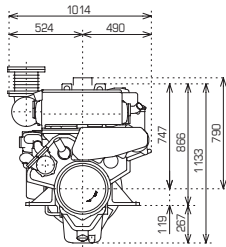
Engine model : 6HYM-WET M-rating / L-rating					
Model	YXH160	YX161L			
Type	Hydraulic multi-disc clutch				
Reduction ratio (Ahead)	1.97	2.46	3.05	3.65	4.08 4.55
Direction of rotation (propeller shaft)	Clockwise or counterclockwise				
Dry weight	kg 390	620			

Accessories

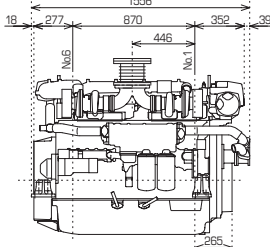
- Breather hose with fittings
- Fresh water sub-tank
- Alternator 980W •2 pole wiring
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit •Operation manual
- YX gearbox
- Remote control head & cable
- Wiring harness
- 2 station instrument panel (C-type)
- Installation parts •PFTO V-pulley
- Double walled FO pipes •Duplex FO filter

Dimensions Unit:mm

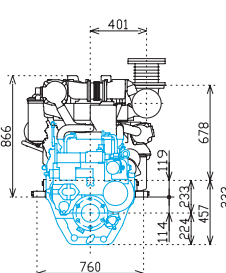
Engine only / Front view



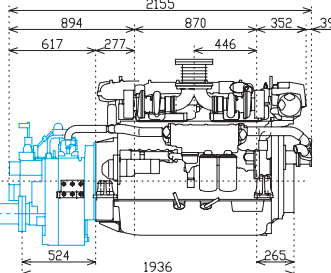
Engine only / Right side view



With YXH160 gearbox / Rear view



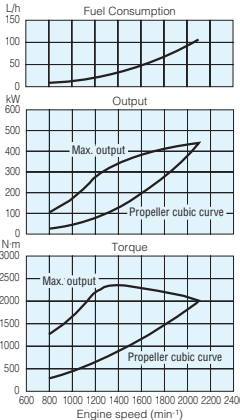
With YXH160 gearbox / Right side view



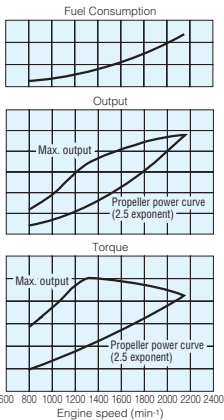
— Marine gear

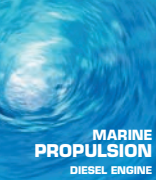
Performance curves

M-rating



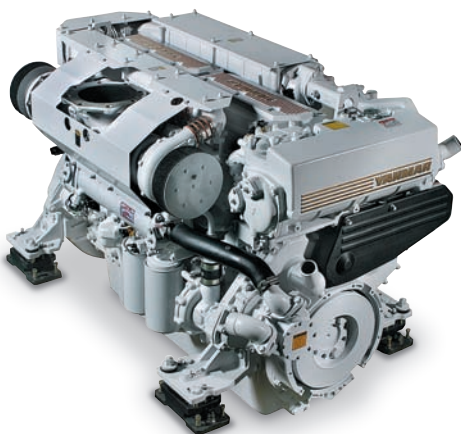
L-rating





6HYM-WET

S-rating 515kW (700mhp)
(Fast Boat Application)



- 6-cylinder, direct injection, heat exchanger cooling.
- Twin-turbocharger + intercooler.
- Available either with marine gear or without marine gear.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.

Specifications

Model	6HYM-WET S-rating		
Number of cylinders	6 in-line		
Bore × stroke	mm	132.9 × 165	
Displacement	lit.	13.733	
Rated output	kW(hp)/rpm	515(700)/2200	
Combustion system	Direct injection		
Aspiration	Turbocharger + intercooler		
Starting system	Electric starting motor (24V 6.0kW)		
Cooling system	Heat exchanger		
Dry mass	kg	1385(without marine gear)	
Dimensions(L × W × H)	mm	1556 × 1014 × 1133	

Marine gear specifications

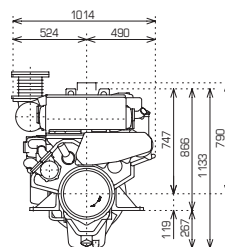
Engine model : 6HYM-WET S-rating						
Model	YXH-130			YXH-160		
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	2.03	2.57	3.04	1.97	2.46	3.05
Direction of rotation (propeller shaft)	Clockwise			Clockwise or counterclockwise		
Dry weight	kg	280		390		

Accessories

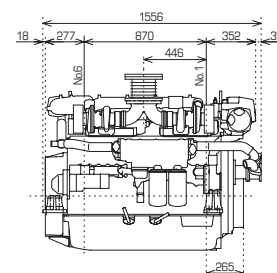
- Breather hose with fittings
- Fresh water sub-tank
- Alternator 980W
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit
- Operation manual
- YX gearbox
- Remote control head & cable
- Wiring harness
- 2 station instrument panel (C-type)
- Installation parts
- FPTO V-pulley
- Double walled FO pipes
- Duplex FO filter

Dimensions Unit:mm

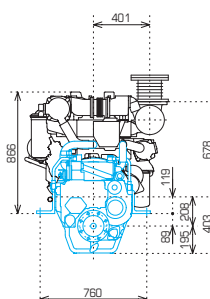
Engine only / Front view



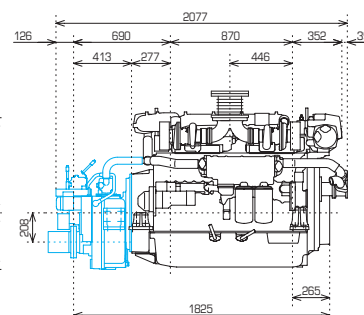
Engine only / Right side view



With YXH130 gearbox / Rear view

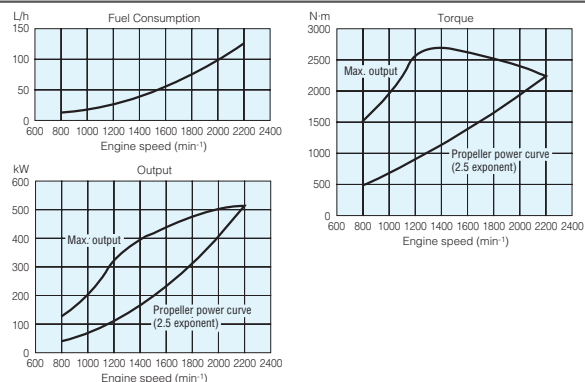


With YXH130 gearbox / Right side view

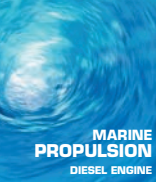


— Marine gear

Performance curves



- Intake air heater
- Horizontal exhaust outlet
- Mixing elbow
- Flexible mounts
- Sea water filter
- Kingston
- Bilge pump
- LO priming pump
- LO evacuation pump
- Drain separator
- Exhaust thermometer
- Flexible joint at T/C outlet
- Flexible joint for piping
- Exhaust silencer
- Battery switch
- Pipes for sea water; fuel oil



6AYM-WST

H-rating 485kW (659mhp)



- 6-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Available either with marine gear or without marine gear.
- Conform to IMO TierII emissions regulations.
- Type approved by NK, ABS, BV, RINA, CCS.

Specifications

Model	6AYM-WST H-rating			
Number of cylinders	6 in-line			
Bore × stroke	mm	155 × 180		
Displacement	lit.	20.379		
Rated output	kW(hp)/rpm	H : 485(659)/1900		
Combustion system	Direct injection			
Aspiration	Turbocharger + intercooler			
Starting system	Electric starting motor (24V 70kW)			
Cooling system	Heat exchanger			
Dry mass	kg	2365(without marine gear)		

Marine gear specifications

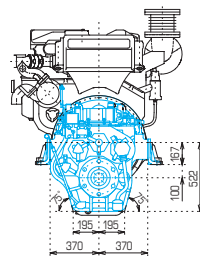
Engine model : 6AYM-WST H-rating			
Model	YX181	YX180L	YXH-240L
Type	Hydraulic multi-disc clutch		
Reduction ratio (Ahead)	2.08	2.55	3.03
Direction of rotation (propeller shaft)	Clockwise or counterclockwise		
Dry weight	kg	560	680
			1240

Accessories

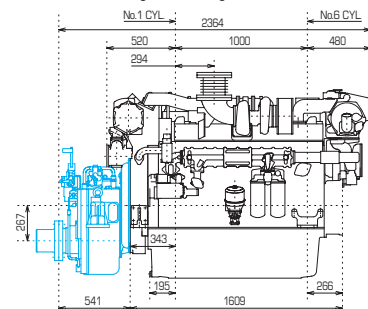
- Breather hose with fittings
- Exhaust flexible joint (T/C out)
- Fresh water sub-tank
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit
- Operation manual
- YX gearbox
- Remote control head & cable
- 2 station instrument panel (C-type)
- Wiring harness
- Air starting motor
- Flexible mounts (for engine)
- FPTO V-pulley
- Horizontal exhaust
- Shallow sump

Dimensions Unit:mm

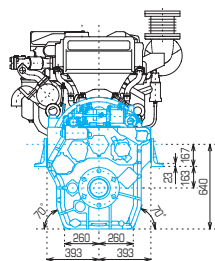
With YX181 gearbox / Rear view



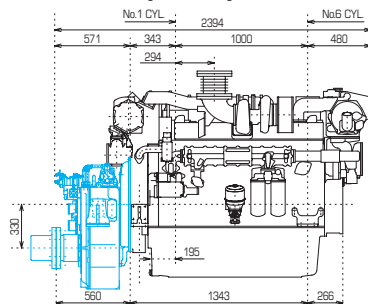
With YX181 gearbox / Right side view



With YX180L gearbox / Rear view

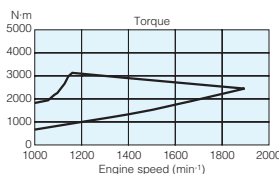
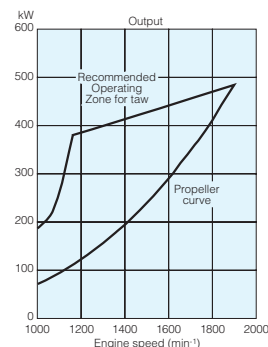
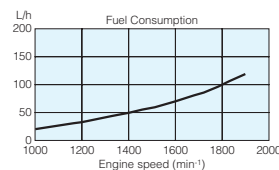


With YX180L gearbox / Right side view

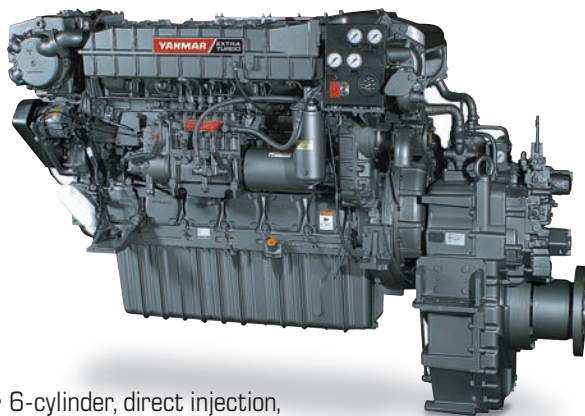


— Marine gear

Performance curves



H-rating 555kW (755mhp)



- 6-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Available either with marine gear or without marine gear.
- Conform to IMO Tier II emissions regulations.
- Type approved by NK, ABS, BV, RINA, CCS.

Specifications

Model	6AYM-WET H-rating
Number of cylinders	6 in-line
Bore × stroke	155 × 180
Displacement	lit. 20.379
Rated output	H : 555(755)/1840
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
Dry mass	kg 2365(without marine gear)

Marine gear specifications

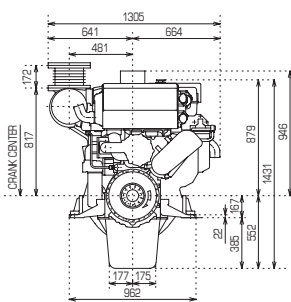
Engine model : GAYM-WET H-rating										
Model		YXH-240					YXH-240L			
Type		Hydraulic multi-disc clutch								
Reduction ratio (Ahead)		195	2.27	256	3.03	348	489	5.36	591	6.57 695
Direction of rotation (propeller shaft)		Clockwise or counterclockwise								
Dry weight		kg	645				1240			

Accessories

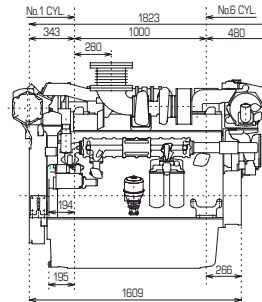
- Breather hose with fittings
- Exhaust flexible joint (T/C out)
- Fresh water sub-tank
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit
- Operation manual
- YX gearbox
- Remote control head & cable
- 2 station instrument panel (C-type)
- Wiring harness
- Air starting motor
- Flexible mounts (for engine)
- FTFO V-pulley
- Horizontal exhaust
- Shallow sump

 Dimensions Unit:mm

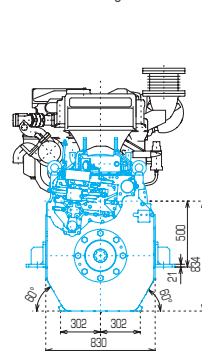
Engine only / Front view



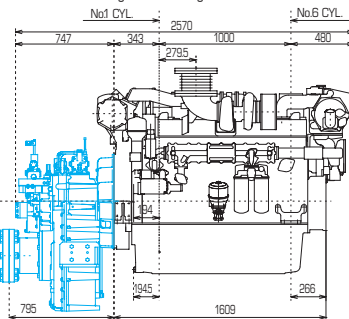
Engine only / Right side view



With YXH240L gearbox / Rear view

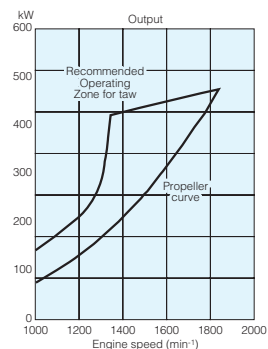
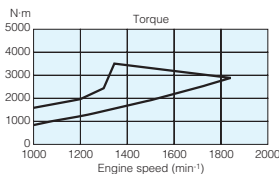
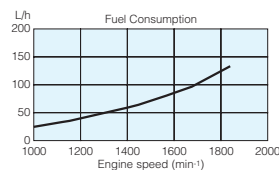


With YXH240L gearbox / Right side view

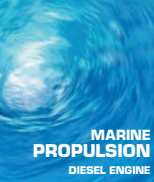


- Marine gear

Performance curves

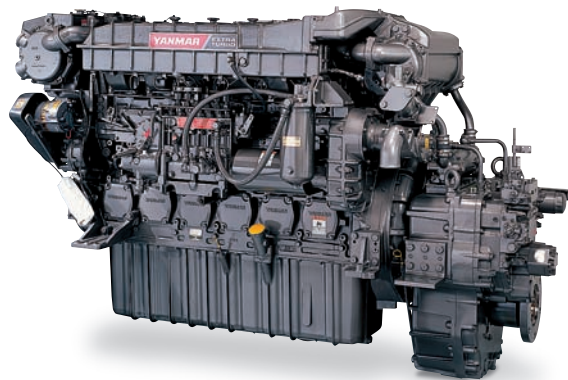


- Duplex LO filter • Duplex FO filter
- Double walled FO pipes • 2 pole wiring
- Engine-mounted instrument panel
- Intake air heater • Exhaust thermometer
- Installation parts • Sea water filter
- Kinaston • Bilge pump
- Flexible joint for exhaust piping
- Exhaust silencer • Battery switch
- Alternator 980W
- Pipes for exhaust, sea water, fuel oil



6AYM-WET

M-rating 610kW (829mhp)



- 6-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Available either with marine gear or without marine gear.
- Conform to IMO Tier II emissions regulations.
- Type approved by NK, ABS, BV, RINA, CCS.

Specifications

Model	6AYM-WET M-rating
Number of cylinders	6 in-line
Bore × stroke	mm 155 × 180
Displacement	lit. 20.379
Rated output	kW(hp)/rpm M : 610(829)/1900
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
Dry mass	kg 2365(without marine gear)

Marine gear specifications

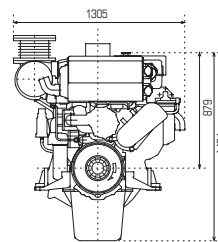
Engine model : 6AYM-WET M-rating	
Model	YXH-240 YXH-240L
Type	Hydraulic multi-disc clutch
Reduction ratio (Ahead)	1.95 2.27 2.56 3.03 3.48 4.89 5.36 5.91 6.57 6.95
Direction of rotation (propeller shaft)	Clockwise or counterclockwise
Dry weight	kg 645 1240

Accessories

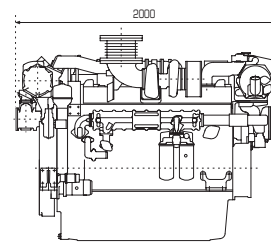
- Breather hose with fittings
- Exhaust flexible joint (T/C out)
- Fresh water sub-tank
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit
- Operation manual
- YX gearbox
- Remote control head & cable
- 2 station instrument panel (C-type)
- Wiring harness
- Air starting motor
- Flexible mounts (for engine)
- FPTO V-pulley
- Horizontal exhaust
- Shallow sump

Dimensions Unit:mm

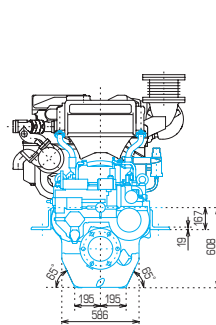
Engine only / Front view



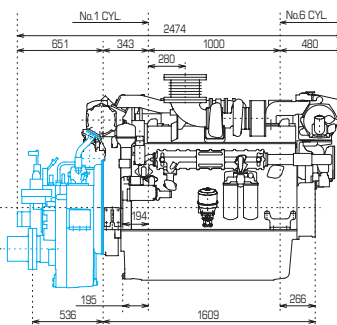
Engine only / Right side view



With YXH240 gearbox / Rear view

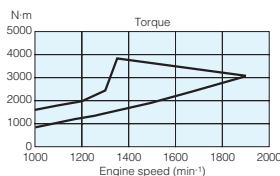
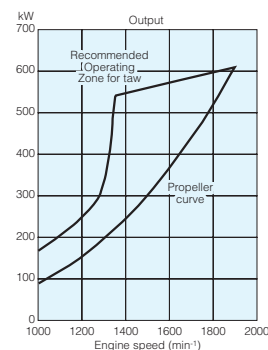
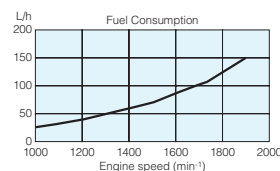


With YXH240 gearbox / Right side view

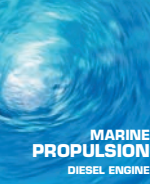


— Marine gear

Performance curves

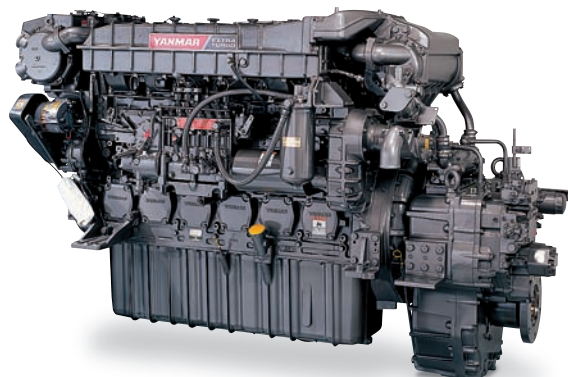


- Duplex LO filter
- Duplex FO filter
- Double walled FO pipes
- 2 pole wiring
- Engine-mounted instrument panel
- Intake air heater
- Exhaust thermometer
- Installation parts
- Sea water filter
- Kingston
- Bilge pump
- Flexible joint for exhaust piping
- Exhaust silencer
- Battery switch
- Alternator 980W
- Pipes for exhaust, sea water, fuel oil



6AYM-WGT

L-rating 670kW (911mhp)



- 6-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Available either with marine gear or without marine gear.
- Conform to IMO Tier II emissions regulations.
- Type approved by NK, ABS, BV, RINA, CCS.

Specifications

Model	6AYM-WGT L-rating
Number of cylinders	6 in-line
Bore X stroke	mm 155 X 180
Displacement	lit. 20.379
Rated output	kW(hp)/rpm L : 670(911)/1938
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
Dry mass	kg 2365(without marine gear)

Marine gear specifications

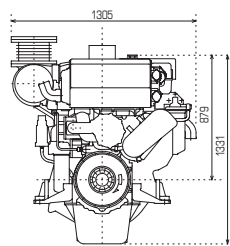
Engine model : 6AYM-WGT L-rating				
Model	YXH-240			
Type	Hydraulic multi-disc clutch			
Reduction ratio (Ahead)	1.95	2.27	2.56	3.03 348
Direction of rotation (propeller shaft)	Clockwise or counterclockwise			
Dry weight	kg	645		

Accessories

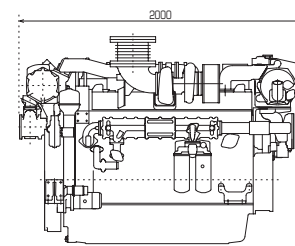
- Breather hose with fittings
- Exhaust flexible joint (T/C out)
- Fresh water sub-tank
- Instrument panel for wheel house (D-type)
- Standard spare parts
- Standard tool kit
- Operation manual
- YX gearbox
- Remote control head & cable
- 2 station instrument panel (C-type)
- Wiring harness
- Air starting motor
- Flexible mounts (for engine)
- FPTO V-pulley
- Horizontal exhaust
- Shallow sump

Dimensions Unit:mm

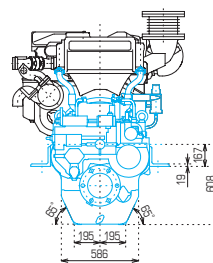
Engine only / Front view



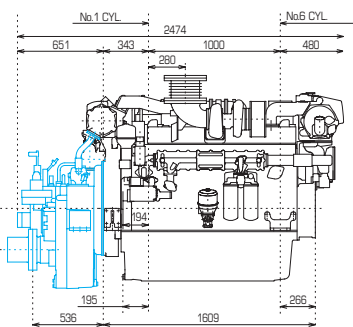
Engine only / Right side view (Shallow sump)



With YXH240 gearbox / Rear view

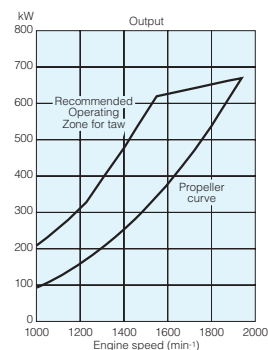
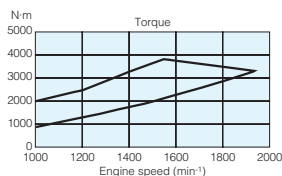
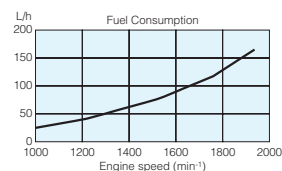


With YXH240 gearbox / Right side view

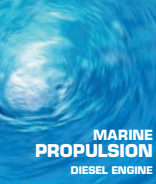


— Marine gear

Performance curves



- Duplex LO filter
- Duplex FO filter
- Double walled FO pipes
- 2 pole wiring
- Engine-mounted instrument panel
- Intake air heater
- Exhaust thermometer
- Installation parts
- Sea water filter
- Kingston
- Bilge pump
- Flexible joint for exhaust piping
- Exhaust silencer
- Battery switch
- Alternator 980W
- Pipes for exhaust, sea water; fuel oil



JH series (Life Boat Engines)

18.4~24.3kW (25~33mhp)



- Comply with SOLAS'96.
- Engine keeps on running after a 360 degree roll.
- Engine can run at least five minutes in water up to centerline of crankshaft.
- Engine is designed to withstand a free fall (fitted on a life boat).

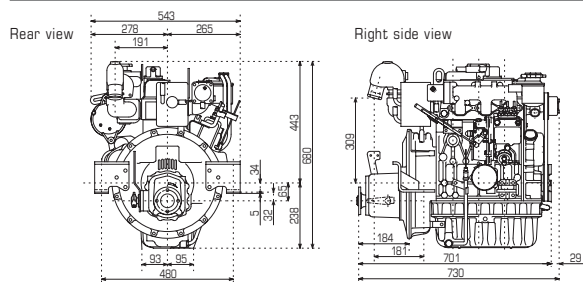
Specifications

Model	3JH25A	3JH30A
Number of cylinders	3	
Bore × stroke	mm 82 × 86	
Displacement	lit. 1.363	
Rated output	kW(PS)/rpm 18.4(25)/3200	22.1(30)/2900
Max. output	kW(PS)/rpm 20.2(27.5)/3300	24.3(33)/3000
Combustion system	Direct injection	
Aspiration	Natural aspirated	
Starting system	Electric starting motor (12V 1.8kW)	
Cooling system	Heat exchanger / Keel cooling	
Marine gear	Mechanical	
Dry weight	kg 187	

Marine gear specifications

Engine model : JH	
Model	KM35P1
Type	Hydraulic multi-disc clutch
Reduction ratio	Ahead: 2.36 Astern: 3.16
Direction of rotation (propeller shaft)	Clockwise or counterclockwise

Dimensions Unit:mm



Accessories

- Breather hose with fittings
- Kingston cock
- Wiring harness 4m
- Evacuation hand pump
- Half coupling (rough bore type)
- Standard spare parts
- Standard tool kit
- Charging alternator
- Operation manual
- Instrument panel for wheel house (B-type)

MARINE AUXILIARY DIESEL ENGINE

Operating Condition:

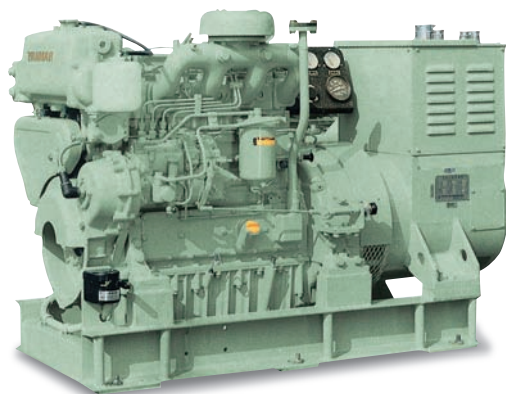
1. Operating hours per year, ≤ 4000 .
2. Over load operation, 11/10 load of continuous rating power, (Within 1 hour by 12 hours).
3. Low load operation (against cont. rating power),
1/4 (AYL: 1/3) load or above, Allowable continuous operation.
1/8 to 1/4 (AYL: 1/6 to 1/3) load, Within 5 (CHL: 4) hours.
1/8 (AYL: 1/6) load or below, Within 0.5 hours.
After running at 1/4 (AYL: 1/3) load or below, Shall be operated 0.5 hours or above at 1/2 load or above.

Note: All Data Subject to Change Without Notice.
Photograph may show optional equipment.

4CHL series

MARINE
AUXILIARY
DIESEL ENGINE

38~74hp / 1500~1800rpm
30~60kVA (24~48kW)



- 4-cylinder, direct injection.
- Natural aspirated or turbocharged.
- Type approved by BV.

Specifications

TNA is not Type approved.

Model	4CHL-N	4CHL-TN	4CHL-TNA
Number of cylinders	In-line 4		
Bore × stroke	mm 105 × 125		
Displacement	lit. 4.33		
Continuous rated engine speed	rpm 1500 1800	1500 1800	1500 1800
Continuous rated output	hp 38 50	50 62	62 74
Applicable generator capacity	kVA(kW) 30 40 (24) (32)	40 50 (32) (40)	50 60 (40) (48)
Frequency	Hz 50 60	50 60	50 60
Combustion system	Direct injection		
Aspiration	Natural aspiration	Exhaust Turbocharger	
Dry weight (Engine only)	kg 500	520	520
Dry weight (Gen. set)	kg 990	1040	1090

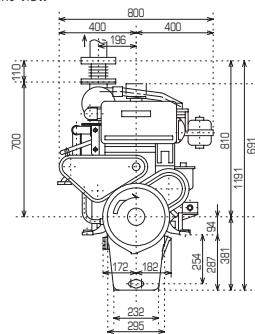
Accessories

- Instrumental panel (attached to engine)
- Cooling system : Rubber impeller type sea water pump
/ Centrifugal type fresh water pump / Heat exchanger / Fresh water reservoir
/ Thermostat for fresh water / Emergency use sea water inlet
- Lubrication system : Lubrication oil pump / Lubrication oil cooler
/ Lubrication oil filter (Single type)
- Fuel system : Paper filter type fuel strainer / Drain separator to be mounted on vessel
- Turbocharging system : Exhaust gas outlet expansion joint from engine (TN(A))
- Electrical equipment : Starter motor (DC24V) 4.0kW / Battery switch / 2 pole wiring
- Thermometer : Exhaust gas at outlet of each cylinder (N)
/ Exhaust gas at inlet of turbocharger (TN(A)) / Cooling water outlet
/ Lubrication oil at cooler inlet

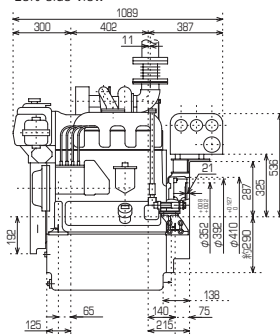
Dimensions Unit:mm

Engine only (4CHL-TN)

Front view



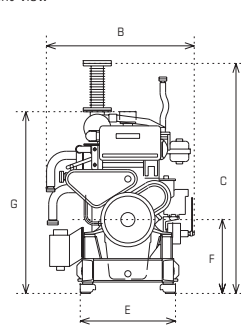
Left side view



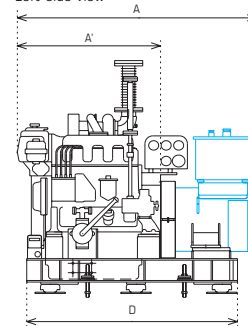
Generator set dimensions for your reference Unit:mm

Generator set dimensions shown below depend on generator model

Front view



Left side view



G : Minimum Height for Removing Piston (Not included the dimension for bolt fitting to piston remove.)

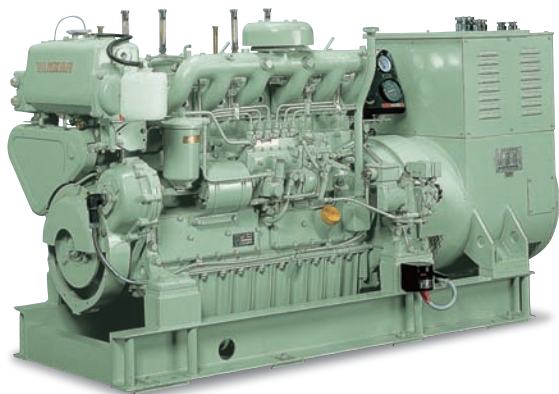
Model	A	A'	B	C	D	E	F	G
4CHL-N	1552	917	947	1351	1350	610	473	1164
4CHL-TN	1532	917	947	1173	1350	610	473	1164
4CHL-TNA	1572	917	947	1173	1420	610	473	1164

— Generator

- Cooling system : Kingston cock
- Lubrication system : Manual priming pump / Inlet and outlet joint for semi dry sump
- Fuel system : Primary fuel strainer to be mounted on vessel
- Electrical equipment : Alternator (DC24V600W)
- Generator (and common bed) : Taiyo or Stamford
- Thermometer : Lubrication oil at cooler outlet
- Electrical governor for parallel operation
- Exhaust piping : Expansion joint for piping / Silencer
- Compressed air starting device
- Remote control device : Trip panel / Stop solenoid / LO pressure switch
/ FW temperature switch / Speed relay / Junction box & wiring

6CHL series

62~145hp / 1500~1800rpm
50~120kVA (40~96kW)



- 6-cylinder, direct injection.
- Natural aspirated or turbocharged.
- Type approved by NK, BV.

Specifications

TNA is not Type approved by BV.
HTN(A) is not Type approved.

Model	6CHL-N	6CHL-TN	6CHL-TNA	6CHL-HTN	6CHL-HTNA
Number of cylinders	In-line 6				
Bore × stroke	mm 105 × 125				
Displacement	lit. 6.494				
Continuous rated engine speed	1500 1800	1500 1800	1500 1800	1500 1800	1500 1800
Continuous rated output hp	62 74	74 100	92 122	100 120	125 145
Applicable generator capacity	kVA(kW) 50 (40) 60 (48)	60 (48) 80 (64)	75 (60) 100 (80)	80 (64) 100 (80)	100 (80) 120 (96)
Frequency	Hz 50 60	50 60	50 60	50 60	50 60
Combustion system	Direct injection				
Aspiration	Natural aspiration	Exhaust Turbocharger		Exhaust Turbocharger with intercooler	
Dry weight (Engine only)	kg 625	645	645	675	675
Dry weight (Gen. set)	kg 1220	1350	1350	1380	1540

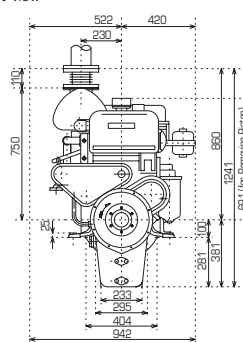
Accessories

- Instrumental panel (attached to engine)
- Cooling system : Rubber impeller type sea water pump
/ Centrifugal type fresh water pump / Heat exchanger / Fresh water reservoir
/ Thermostat for fresh water / Emergency use sea water inlet
- Lubrication system : Lubrication oil pump / Lubrication oil cooler
/ Lubrication oil filter (Single type)
- Fuel system : Paper filter type fuel strainer / Drain separator to be mounted on vessel
- Turbocharging system : Exhaust gas outlet expansion joint from engine (TN(A), HTN(A))
- Electrical equipment : Starter motor (DC24V) 4.0kW / Battery switch / 2 pole wiring
- Thermometer : Exhaust gas at outlet of each cylinder (N)
/ Exhaust gas at inlet of turbocharger (TN(A), HTN(A)) / Cooling water outlet
/ Lubrication oil at cooler inlet

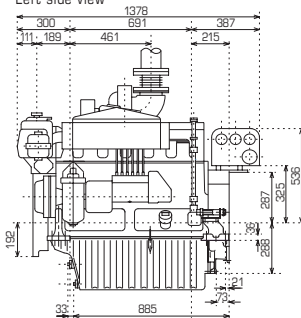
Dimensions Unit:mm

Engine only (6CHL-HTN)

Front view



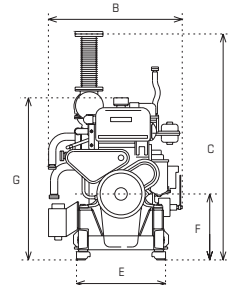
Left side view



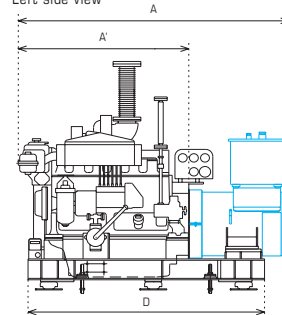
Generator set dimensions for your reference Unit:mm

Generator set dimensions shown below depend on generator model

Front view



Left side view



G : Minimum Height for Removing Piston (Not included the dimension for bolt fitting to piston remove.)

Model	A	A'	B	C	D	E	F	G
6CHL-N	1861	1206	962	1382	1650	640	474	1165
6CHL-TN	1926	1206	962	1624	1700	640	474	1165
6CHL-TNA	1926	1206	962	1624	1700	640	474	1165
6CHL-HTN	1946	1256	962	1624	1700	640	474	1165
6CHL-HTNA	2051	1256	962	1634	1900	640	484	1175

— Generator

- Cooling system : Kingston cock
- Lubrication system : Manual priming pump / Inlet and outlet joint for semi dry sump
- Fuel system : Primary fuel strainer to be mounted on vessel
- Electrical equipment : Alternator (DC24V600W)
- Generator (and common bed) : Taiyo or Stamford
- Thermometer : Lubrication oil at cooler outlet
- Electrical governor for parallel operation
- Exhaust piping : Expansion joint for piping / Silencer
- Compressed starting device
- Remote control device : Trip panel / Stop solenoid / LO pressure switch
/ FW temperature switch / Speed relay / Junction box & wiring

4HAL2 series

MARINE
AUXILIARY
DIESEL ENGINE

98~183hp / 1200~1800rpm
80~150kVA (64~120kW)



- 4-cylinder, direct injection.
- 4HAL2-WT Conform to IMO Tier II emissions regulations.
- Type approved by NK, BV, GL, KR.

Specifications

Model	4HAL2-TN1	4HAL2-TN	4HAL2-WT
Number of cylinders	In-line 4		
Bore × stroke	mm 130 × 165		
Displacement	lit. 8.76		
Continuous rated engine speed	rpm 1200 1500 1800	1200 1500 1800	
Continuous rated output	hp 98 121 157	122 156	183
Applicable generator capacity	kVA(kW) 80 100 130 (64) (80) (104)	100 125 150 (80) (100) (120)	
Frequency	Hz 60 50 60	60 50 60	
Combustion system	Direct injection		
Aspiration	Exhaust Turbocharger		
Dry weight (Engine only)	kg 1030		
Dry weight (Gne. set)	kg 1855		

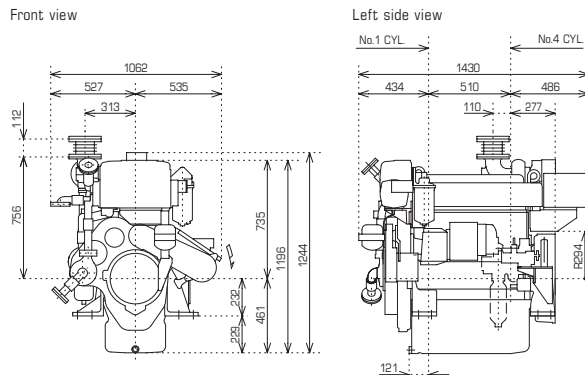
Accessories

- Instrumental panel (attached to engine)
- Cooling system : Sea water pump / Centrifugal type fresh water pump / Heat exchanger / Fresh water reservoir / Thermostat for fresh water / Emergency use sea water inlet
- Lubrication system : Lubrication oil pump / Lubrication oil cooler / Lubrication oil filter (Single type) / Manual priming pump
- Fuel system : Paper filter type fuel strainer / Drain separator to be mounted on vessel
- Turbocharging system : Exhaust gas outlet expansion joint from engine
- Electrical equipment : Starter motor (DC24V) 5.5kW / Alternator (DC24V600W) / Battery switch / 2 pole wiring
- Thermometer : Exhaust gas at outlet of each cylinder / Cooling water outlet / Lubrication oil at cooler inlet

Dimensions Unit:mm

Engine only

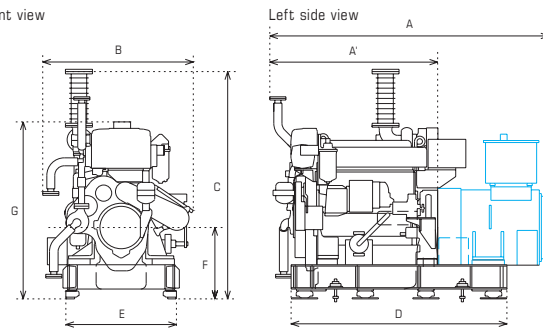
Front view



Generator set dimensions for your reference Unit:mm

Generator set dimensions shown below depend on generator model

Front view



G : Minimum Height for Removing Piston (Not included the dimension for bolt fitting to piston remove.)

Model	A	A'	B	C	D	E	F	G
4HAL2-TN1	2070	1245	1117	1685	1600	820	529	1312
4HAL2-TN	2070	1245	1117	1685	1600	820	529	1312
4HAL2-WT	2070	1245	1117	1685	1600	820	529	1312

— Generator

- Cooling system : Kingston cock
- Lubrication system : Inlet and outlet joint for semi dry sump
- Fuel system : Primary fuel strainer to be mounted on vessel
- Generator (and common bed) : Taiyo or Stamford
- Thermometer : Exhaust gas at inlet of turbocharger / Lubrication oil at cooler outlet
- Electrical governor for parallel operation
- Exhaust piping : Expansion joint for piping / Silencer
- Compressed air starting device
- Remote control device : Trip panel / Stop solenoid / LO pressure switch / FW temperature switch / Speed relay / Junction box & wiring

6HAL2 series

MARINE
AUXILIARY
DIESEL ENGINE

122~414hp / 1200~1800rpm
100~350kVA (80~280kW)



- 6-cylinder, direct injection.
- Natural aspirated or turbocharged. (with intercooler)
- 6HAL2-WT, 6HAL2-WHT and 6HAL2-WDT conform to IMO Tier II emissions regulations.
- Type approved by NK, BV, GL, KR.

Specifications

Model	6HAL2-N	6HAL2-TN	6HAL2-WT	6HAL2-WHT	6HAL2-WDT
Number of cylinders	In-line 6				
Bore × stroke	mm 130 × 165				
Displacement	lit. 13.14				
Continuous rated engine speed	rpm 1200 1500	1200	1500 1800	1200 1500 1800	1200 1500 1800
Continuous rated output	hp 122 156	163	204 244	217 299 360	271 346 414
Applicable generator capacity	kVA(kW) 100 125 (80) (100)	130 (104)	170 200 (136) (160)	180 250 300 (144) (200) (240)	225 290 350 (180) (232) (280)
Frequency	Hz 60 50	60	50 60	60 50 60	60 50 60
Combustion system	Direct injection				
Aspiration	Natural aspiration	Exhaust Turbocharger		Exhaust Turbocharger with intercooler	
Dry weight (Engine only)	kg 1380	1422	1437	1447	
Dry weight (Gen. set)	kg 2360	2410	2750	2850	

Accessories

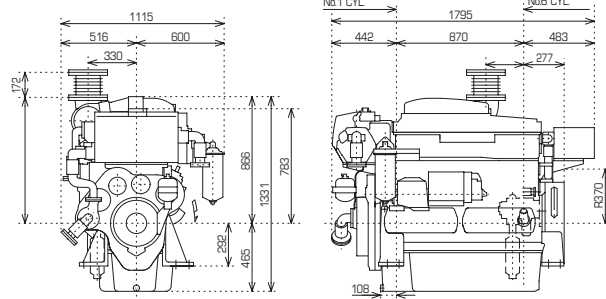
- Instrumental panel (attached to engine)
- Cooling system : Sea water pump / Centrifugal type fresh water pump / Heat exchanger / Fresh water reservoir / Thermostat for fresh water / Emergency use sea water inlet
- Lubrication system : Lubrication oil pump / Lubrication oil cooler / Lubrication oil filter (Tandem switch type) / Manual priming pump
- Fuel system : Paper filter type fuel strainer / Drain separator to be mounted on vessel
- Turbocharging system : Exhaust gas outlet expansion joint from engine
- Electrical equipment : Starter motor (DC24V) 6.0kW / Alternator (DC24V600W) / Battery switch / 2 pole wiring
- Thermometer : Exhaust gas at outlet of each cylinder / Cooling water outlet / Lubrication oil at cooler inlet

Dimensions Unit:mm

Engine only (6HAL2-TN, -WT, -WHT, -WDT)

Front view

Left side view

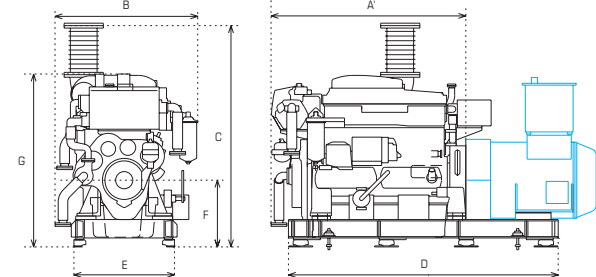


Generator set dimensions for your reference Unit:mm

Generator set dimensions shown below depend on generator model

Front view

Left side view



G : Minimum Height for Removing Piston (Not included the dimension for bolt fitting to piston remove.)

Model	A	A'	B	C	D	E	F	G
6HAL2-N	2499	1589	1164	1654	2100	820	544	1327
6HAL2-TN	2499	1589	1164	1774	2100	820	544	1327
6HAL2-WT	2499	1589	1164	1774	2100	820	544	1327
6HAL2-WHT	2574	1589	1164	1804	2200	820	544	1327
6HAL2-WDT	2684	1589	1164	1804	2200	820	544	1327

— Generator

- Cooling system : Kingston cock
- Lubrication system : Inlet and outlet joint for semi dry sump
- Fuel system : Primary fuel strainer to be mounted on vessel
- Generator (and common bed) : Taiyo or Stamford
- Thermometer : Exhaust gas at inlet of turbocharger (WT, TN, WHT, WDT) / Lubrication oil at cooler outlet
- Electrical governor for parallel operation
- Exhaust piping : Expansion joint for piping / Silencer
- Compressed air starting device
- Remote control device : Trip panel / Stop solenoid / LO pressure switch / FW temperature switch / Speed relay / Junction box & wiring

6AYL series

480~668hp / 1500~1800rpm
400~562.5kVA (320~450kW)



- 6-cylinder, direct injection.
- Turbocharged with intercooler.
- Conform to IMO Tier II emissions regulations.
- Type approved by NK, ABS, BV, RINA, CCS, KR.

Specifications

Model	6AYL-WST		6AYL-WET	
Number of cylinders	In-line 6			
Bore × stroke	mm	155 × 180		
Displacement	lit.	20.379		
Continuous rated engine speed	rpm	1800	1500	1800
Continuous rated output	hp	480	596	668
Applicable generator capacity	kVA(kW)	400(320)	500(400)	562.5(450)
Frequency	Hz	60	50	60
Combustion system	Direct injection			
Aspiration	Exhaust Turbocharger with intercooler			
Dry weight (Engine only)	kg	2475		
Dry weight (Gen. set)	kg	4600	4750	

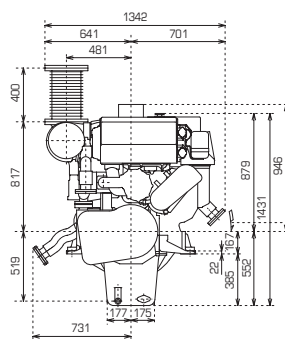
Accessories

- Instrumental panel (attached to engine)
- Cooling system : Sea water pump / Centrifugal type fresh water pump / Heat exchanger / Fresh water reservoir / Thermostat for fresh water / Emergency use sea water inlet
- Lubrication system : Lubrication oil pump / Lubrication oil cooler / Lubrication oil filter (Tandem switch type) / Manual priming pump
- Fuel system : Paper filter type fuel strainer / Drain separator to be mounted on vessel
- Turbocharging system : Exhaust gas outlet expansion joint from engine
- Electrical equipment : Starter motor (DC24V) 70kW / Alternator (DC24V600W) / Battery switch / 2 pole wiring
- Thermometer : Exhaust gas at outlet of each cylinder / Cooling water outlet / Lubrication oil at cooler inlet

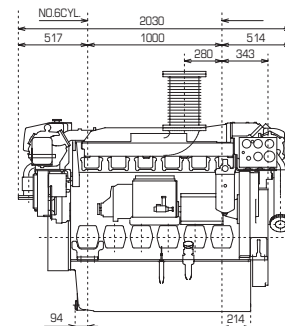
Dimensions Unit:mm

Engine only

Front view



Left side view

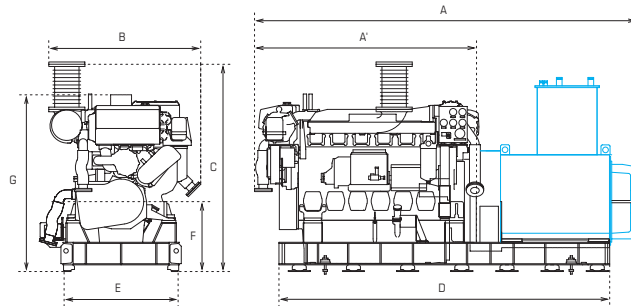


Generator set dimensions for your reference Unit:mm

Generator set dimensions shown below depend on generator model

Front view

Left side view



G : Minimum Height for Removing Piston (Not included the dimension for bolt fitting to piston remove.)

Model	A	A'	B	C	D	E	F	G
6AYL-WST	2970	1860	1445	1836	2540	1030	619	1565
6AYL-WET	3040	1860	1445	1836	2600	1030	619	1565

— Generator

- Cooling system : Kingston cock
- Lubrication system : Inlet and outlet joint for semi dry sump / Large wet sump
- Fuel system : Primary fuel strainer to be mounted on vessel
- Generator (and common bed) : Taiyo or Stamford
- Thermometer : Exhaust gas at inlet of turbocharger / Lubrication oil at cooler outlet
- Electrical governor for parallel operation
- Exhaust piping : Expansion joint for piping / Silencer
- Compressed starting device
- Remote control device : Trip panel / Stop solenoid / LO pressure switch / FW temperature switch / Speed relay / Junction box & wiring