YANMAR

MARINE PRODUCT HANDBOOK

Commercial High Speed Diesel Engines

78 mhp [57.4 kW] to 1822 mhp [1340 kW]

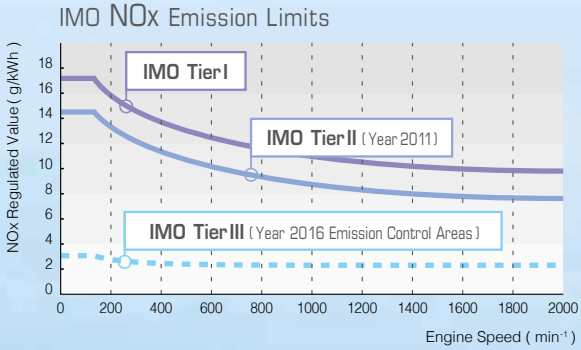
Reliability, Economical efficiency & Comfort for customers dedicated to maritime activity.

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 NOx 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 NOx 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 seven 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). CCS(China Classification Society).

Certifications of 7 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]
CCS [China Classification Society]

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

MARINE PROPULSION

DIESEL ENGINE

Rating Conditions:
Ratings are based upon ISO 15550 reference conditions; air pressure of 100 kPa, air temperature 25°C [77°F], and 30% relative humidity.

S = For applications where use of rated power is less than 1.5 hours continuous out of every 5 hours and operation is less than 1000 hours per year.
When combined with a correctly matched propeller which allows the engine rated rpm to be achieved in a fully loaded vessel state, the reduced-power operation can be at or below 100-200 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 2500 hours per year.
When combined with a correctly matched propeller which allows the engine rated rpm to be achieved in a fully loaded vessel state, the reduced-power operation can be at or below 100-200 rpm of the rated speed.
M = For applications where use of rated power is less than 8 hours continuous out of every 12 hours and operation is less than 4000 hours per year.
When combined with a correctly matched propeller which allows the engine rated rpm to be achieved in a fully loaded vessel state, the reduced-power operation can be at or below 100-200 rpm of the rated speed.
H = For applications where use of rated power is less than 10 hours continuous out of every 12 hours and operation is less than 6000 hours per year.
When combined with a correctly matched propeller which allows the engine rated rpm to be achieved in a fully loaded vessel state, the reduced-power operation can be at or below 100-200 rpm of the rated speed.

* Please ask Yanmar or local distributor for the detail of each model.
Fuel rates: Specific gravity 840g/liter, low calorific value 42700kj/kg (10200kcal/kg), Cetane No.45.

Ratings	S	L	M	H
Annual maximum operation hours/year	1000h or below	2500h or below	4000h or below	6000h or below
Allowable contiuous operation hours at maximum power	1.5h/5h or below	2h/5h or below	8h/12h or below	10h/12h or below
Load factor	30% or below	40% or below	60% or below	80% or below

Note : This rating difinition apply for new engine that installed after 1st of April 2015.

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

MARINE PROPULSION DIESEL ENGINE

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

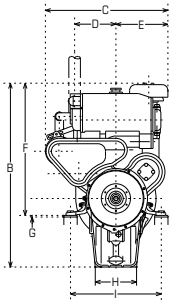
Model	4CHE3	6CHE3
Number of cylinders	4 in-line	6 in-line
Bore × stroke mm	105 × 125	
Displacement lit.	4.330	6.494
Rated output kW(hp)/rpm	M : 57.4(78)/2550	M : 84.6(115)/2550
	L : 62.5(85)/2600	L : 95.6(130)/2600
Combustion system	Direct injection	
Aspiration	Natural aspirated	
Starting system	Electric starting motor (24V 4.0kW)	
Cooling system	Heat exchanger	
Marine gear	Hydraulic	
Size of flywheel housing and flywheel	SAE #3 and 11-1/2 in.	
Dry mass (with marine gear) kg	570	700
Dimensions (L×W×H) mm	1258×688×1022 with YX30	1496×690×1018 with YX30

Marine gear specifications

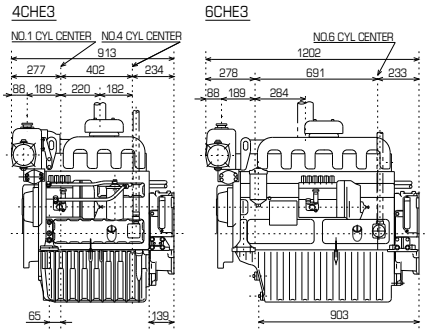
Engine model : 4CHE3 · 6CHE3				
Model	YX-30			
Type	Hydraulic multi-disc clutch, wet type			
Reduction ratio (Ahead)	2.03	2.55	2.96	3.48
Direction of rotation (propeller shaft)	Clockwise or counter-clockwise viewed from stern			
Dry weight kg	70			

Dimensions Unit:mm

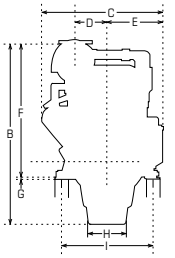
Engine only / Front view



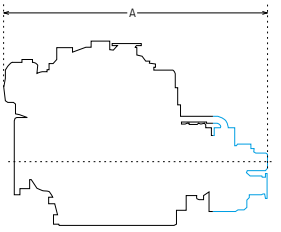
Engine only / Left side view



With gearbox / Rear view



With gearbox / Left side view

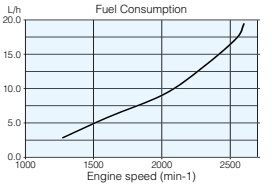


Model	A	B	C	D	E	F	G	H	I
4CHE3×YX-30-2	1258	1022	688	232	292	735	9	232	510
6CHE3×YX-30-2	1496	1018	690	233	300	737	9	233	550

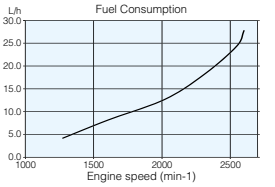
– Marine gear

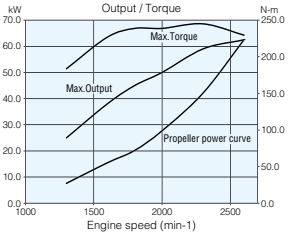
Performance curves

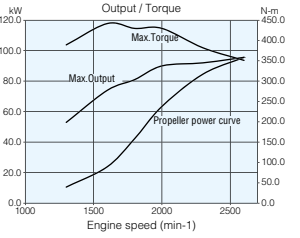
4CHE3



6CHE3



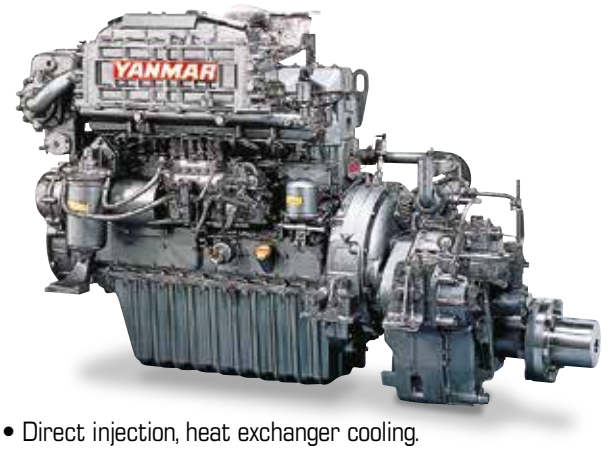




MARINE PROPULSION
DIESEL ENGINE

6CH-HTE3 / WUTE

M · L-rating 125~206kW (170~280mhp)



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

Specifications

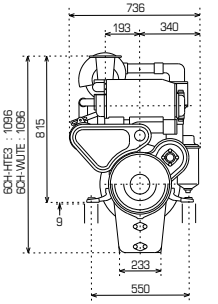
Model	6CH-HTE3	6CH-WUTE
Number of cylinders	6 in-line	
Bore × stroke mm	105 × 125	
Displacement lit.	6.494	
Rated output kW(hp)/rpm	M : 125(170)/2550	M : 188(255)/2550
	L : 140(190)/2600	L : 206(280)/2600
Combustion system	Direct injection	
Aspiration	Turbocharger + intercooler	
Starting system	Electric starting motor (24V 4.0kW)	
Cooling system	Heat exchanger	
Marine gear	Hydraulic	
Size of flywheel housing and flywheel	SAE #3 and 11-1/2 in.	
Dry mass (with marine gear) kg	895	940
Dimensions (L×W×H) mm	1600×736×1096	1600×736×1096

Marine gear specifications

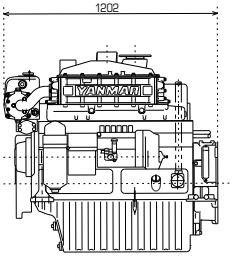
Engine model : 6CH-HTE3, 6CH-WUTE	
Model	YX-71
Type	Hydraulic multi-disc clutch, wet type
Reduction ratio (Ahead)	2.07 2.58 2.91 3.53
Direction of rotation (propeller shaft)	Clockwise or counter-clockwise viewed from stern
Dry weight kg	220

Dimensions Unit:mm

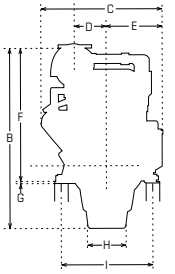
Engine only / Front view



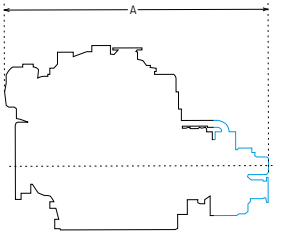
Engine only / Left side view



With gearbox / Front view



With gearbox / Left side view

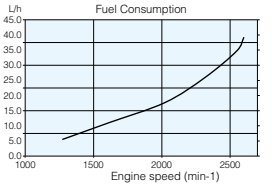


	A	B	C	D	E	F	G	H	I
6CH-HTE3×YX-71	1600	1096	736	193	340	815	9	233	550
6CH-WUTE×YX-71	1600	1096	736	193	340	815	9	233	550

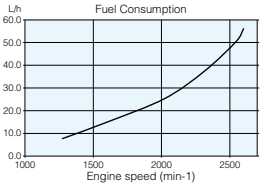
– Marine gear

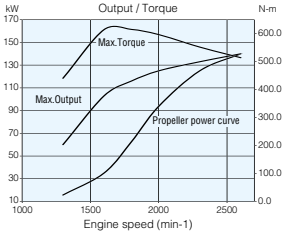
Performance curves

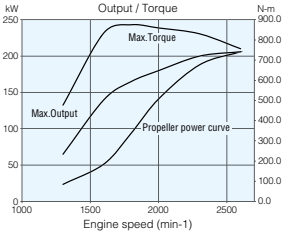
6CH-HTE3



6CH-WUTE







MARINE PROPULSION DIESEL ENGINE

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

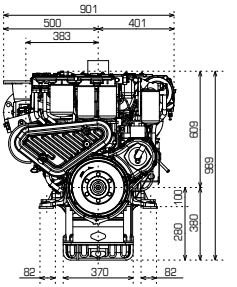
Model		6CXBM-GT
Number of cylinders		6 in-line
Bore × stroke	mm	110 × 130
Displacement	lit.	7.413
Rated output	kW(hp)/rpm	H : 265(360)/2400
		M : 294(400)/2500
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V 5.0kW)
Cooling system		Heat exchanger
Size of flywheel housing and flywheel		SAE #3 and 11-1/2 in.
Dry mass (without marine gear)	kg	856
Dimensions (L×W×H)	mm	1390×901×989

Marine gear specifications

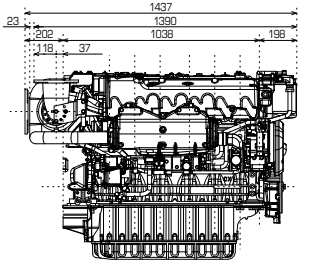
Engine model : 6CXBM-GT			
Model		YX-80	YXH2-130(2 speed type)
Type		Hydraulic multi-disc clutch, wet type	
Reduction ratio (Ahead)		2.07 2.58 2.91	2.03/2.62 2.57/3.35 3.04/4.00
Direction of rotation (propeller shaft)		Clockwise or counter-clockwise viewed from stern	Counter-clockwise viewed from stern
Dry weight	kg	204	320

Dimensions Unit:mm

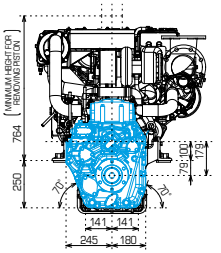
Engine only / Front view



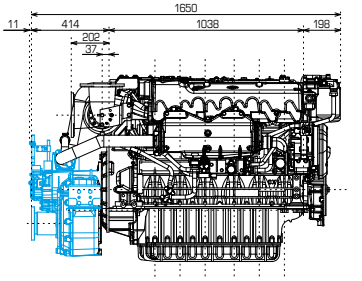
Engine only / Right side view



With YX80 gearbox / Rear view



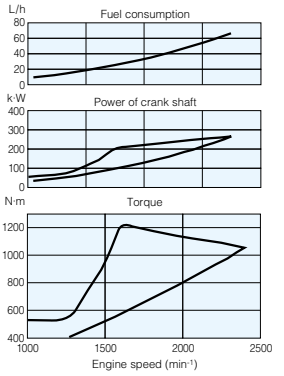
With YX80 gearbox / Right side view



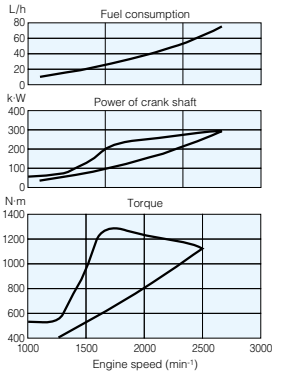
– Marine gear

Performance curves

H-rating



M-rating



MARINE PROPULSION DIESEL ENGINE

6CXBM-GT

L-rating 341kW (464mhp)
S-rating 374kW (509mhp) (For planing hull)

- 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
Size of flywheel housing and flywheel		SAE #3 and 11-1/2 in.
Dry mass (without marine gear)	kg	856
Dimensions (L×W×H)	mm	1390×901×989

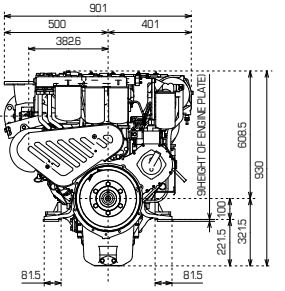
Marine gear specifications

Engine model : 6CXBM-GT		
Model	YX-80	
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

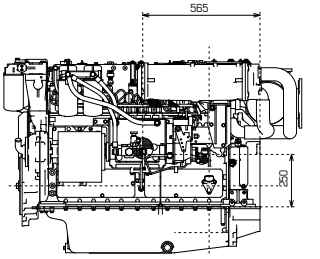
Dimensions Unit:mm

with optional shallow oil sump

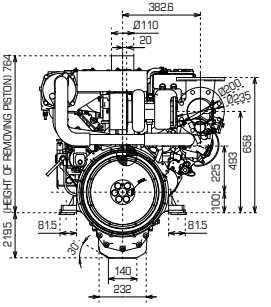
Engine only / Front view



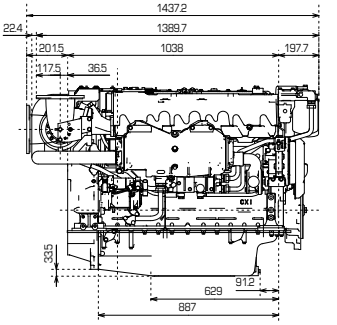
Engine only / Left side view



Engine only / Rear view

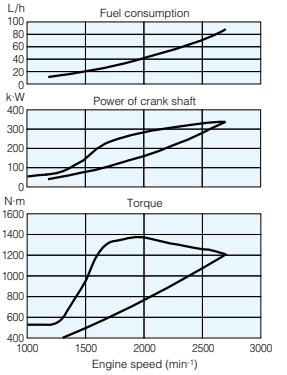


Engine only / Right side view

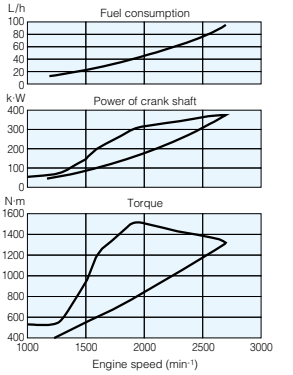


Performance curves

L-rating



S-rating



MARINE PROPULSION
DIESEL ENGINE

6HA2M-WHT

H-rating 204kW (278mhp)
M-rating 257kW (350mhp)

- 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.

Specifications

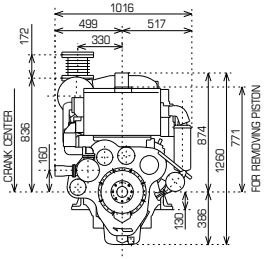
Model		6HA2M-WHT
Number of cylinders		6 in-line
Bore × stroke	mm	130 × 165
Displacement	lit.	13.140
Rated output	kW(hp)/rpm	H : 204(278)/1880 M : 257(350)/1950
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V 6.0kW)
Cooling system		Heat exchanger
Size of flywheel housing and flywheel		SAE #1 and 14 in.
Dry mass (without marine gear)	kg	1455
Dimensions (L×W×H)	mm	1585×1016×1260

Marine gear specifications

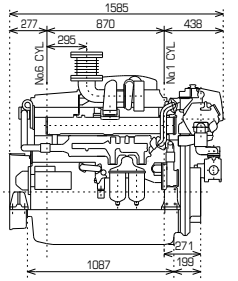
Engine model : 6HA2M-WHT						
Model		YX-120			YX-120L	
Type		Hydraulic multi-disc clutch				
Reduction ratio (Ahead)		2.03	2.57	3.04	3.55	4.00	4.59
Direction of rotation (propeller shaft)		Clockwise or counterclockwise				
Dry weight	kg	315			411	

Dimensions Unit:mm

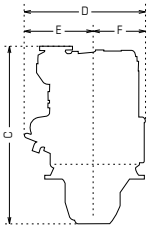
Engine only / Front view



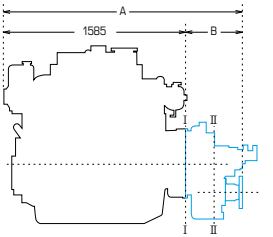
Engine only / Right side view



With YX120L gearbox / Front view



With YX120L gearbox / Left side view

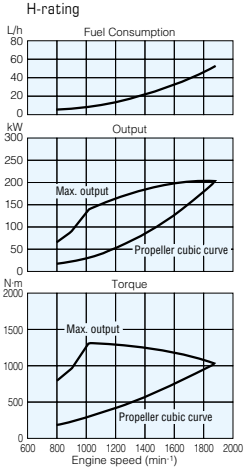


Model	A	B	C	D	E	F
6HA2M-WHT×YX-120	2005	420	1272	1016	499	517
6HA2M-WHT×YX-120L	2039	454	1384	1016	499	517

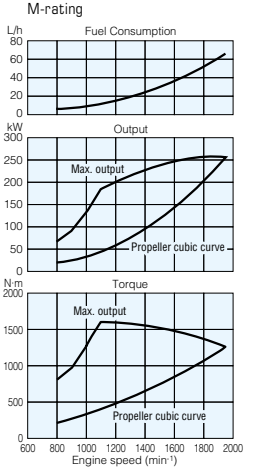
– Marine gear

Performance curves

H-rating



M-rating



MARINE PROPULSION
DIESEL ENGINE

6HA2M-WDT

M-rating 298kW (405mhp)

- 4 valves per cylinder for higher combustion efficiency.
- Turbocharger + intercooler models.
- Available either with marine gear or without marine gear.
- Conform to IMO Tier II emissions regulations.

Specifications

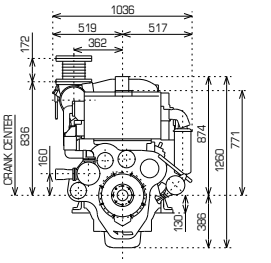
Model		6HA2M-WDT
Number of cylinders		6 in-line
Bore × stroke	mm	130 × 165
Displacement	lit.	13.140
Rated output	kW(hp)/rpm	M: 298(405)/1950
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V 6.0kW)
Cooling system		Heat exchanger
Size of flywheel housing and flywheel		SAE #1 and 14 in.
Dry mass (without marine gear)	kg	1465
Dimensions (L×W×H)	mm	1585×1036×1260

Marine gear specifications

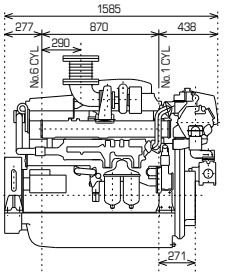
Engine model : 6HA2M-WDT						
Model	YX-120			YX-120L		
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	2.03	2.57	3.04	3.46	4.00	4.59
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight kg	315			411		

Dimensions Unit:mm

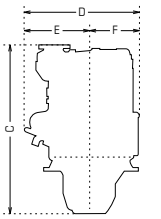
Engine only / Front view



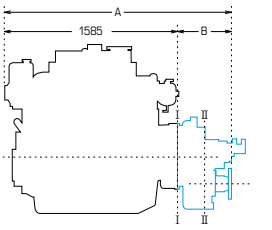
Engine only / Left side view



With YX120 gearbox / Front view



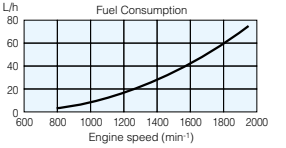
With YX120 gearbox / Left side view

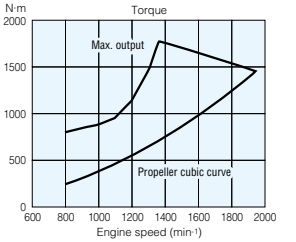


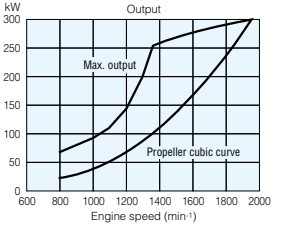
	A	B	C	D	E	F
6HA2M-WDT×YX-120	2005	420	1272	1036	519	517
6HA2M-WDT×YX-120L	2039	454	1384	1036	519	517

– Marine gear

Performance curves







MARINE PROPULSION
DIESEL ENGINE

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.

Specifications

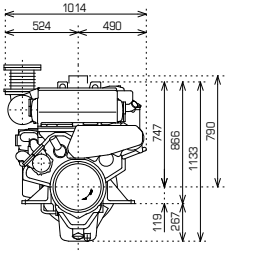
Model		6HYM-WET H-rating
Number of cylinders		6 in-line
Bore × stroke	mm	132.9 × 165
Displacement	lit.	13.733
Rated output	kW(hp)/rpm	368(500)/1950
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V 6.0kW)
Cooling system		Heat exchanger
Size of flywheel housing and flywheel		SAE #1 and 14 in.
Dry mass	kg	1385(without marine gear)
Dimensions (L×W×H)	mm	1556×1014×1133

Marine gear specifications

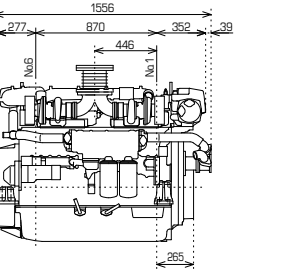
Engine model : 6HYM-WET H-rating						
Model	YXH-160			YX-161L		
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	1.97	246	3.05	3.65	4.08	4.55
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight	kg	396			620	

Dimensions Unit:mm

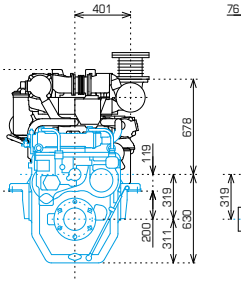
Engine only / Front view



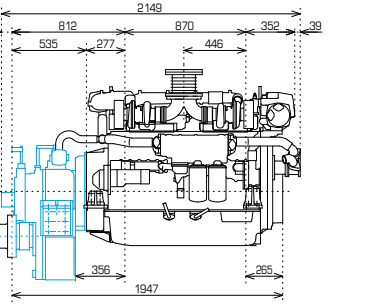
Engine only / Right side view



With YX161L gearbox / Rear view

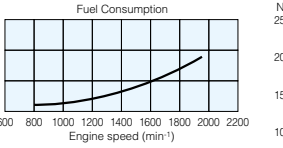


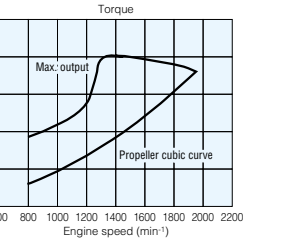
With YX161L gearbox / Right side view

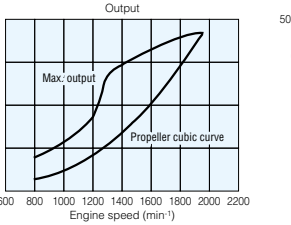


– Marine gear

Performance curves







MARINE PROPULSION
DIESEL ENGINE

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.

Specifications

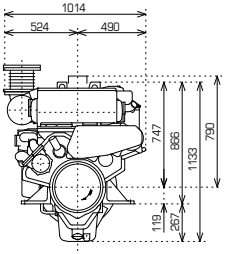
Model		6HYM-WET M-rating / L-rating
Number of cylinders		6 in-line
Bore × stroke	mm	132.9 × 165
Displacement	lit.	13.733
Rated output	kW(hp)/rpm	M : 441(600)/2100
		L : 478(650)/2150
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V 6.0kW)
Cooling system		Heat exchanger
Size of flywheel housing and flywheel		SAE #1 and 14 in.
Dry mass	kg	1385(without marine gear)
Dimensions (L×W×H)	mm	1556×1014×1133

Marine gear specifications

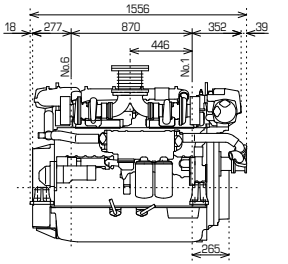
Engine model : 6HYM-WET M-rating / L-rating						
Model	YXH-160			YX-161L		
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	1.97	2.46	3.05	3.65	4.08	4.55
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight	kg	396			620	

Dimensions Unit:mm

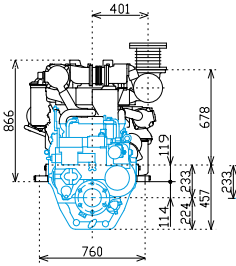
Engine only / Front view



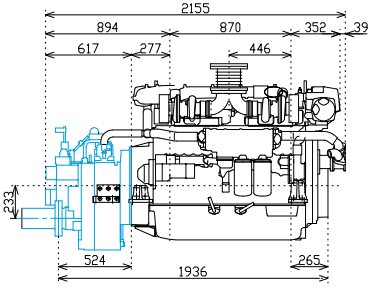
Engine only / Right side view



With YXH160 gearbox / Rear view

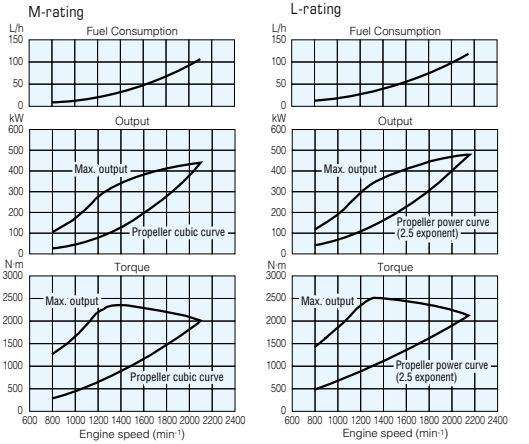


With YXH160 gearbox / Right side view



– Marine gear

Performance curves



MARINE PROPULSION
DIESEL ENGINE

6HYM-WET

S-rating 515kW (700mhp) (For planing hull)

- 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

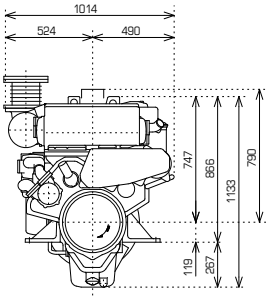
Model		6HYM-WET S-rating
Number of cylinders		6 in-line
Bore × stroke	mm	132.9 × 165
Displacement	lit.	13.733
Rated output	kW(hp)/rpm	515(700)/2200
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V 6.0kW)
Cooling system		Heat exchanger
Size of flywheel housing and flywheel		SAE #1 and 14 in.
Dry mass	kg	1385(without marine gear)
Dimensions (L×W×H)	mm	1556×1014×1133

Marine gear specifications

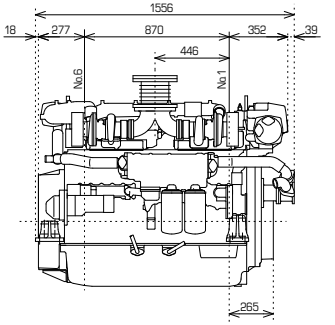
Engine model : 6HYM-WET S-rating		
Model		YXH-160
Type		Hydraulic multi-disc clutch
Reduction ratio (Ahead)		1.97 246 3.05
Direction of rotation (propeller shaft)		Clockwise or counterclockwise
Dry weight	kg	396

Dimensions Unit:mm

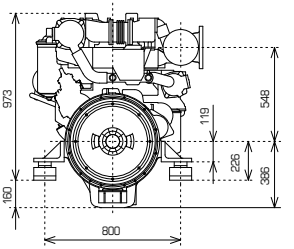
Engine only / Front view



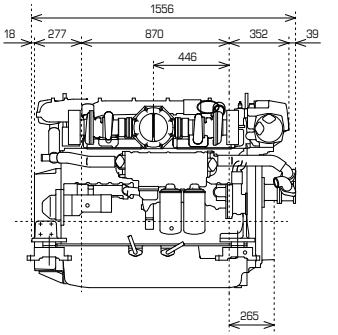
Engine only / Right side view



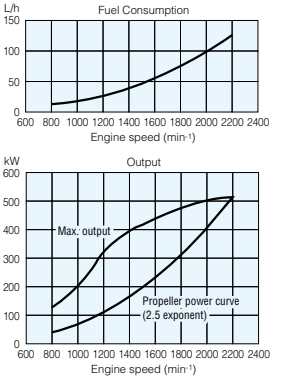
Engine only / Rear view

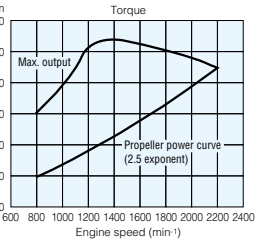


Engine only / Right side view



Performance curves





MARINE PROPULSION
DIESEL ENGINE

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 Tier II emissions regulations.

Specifications

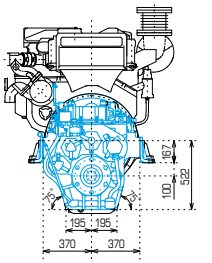
Model		6AYM-WST H-rating
Number of cylinders		6 in-line
Bore × stroke	mm	155 × 180
Displacement	lit.	20.379
Rated output	kW(hp)/rpm	H : 485(659)/1900
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V 7.0kW)
Cooling system		Heat exchanger
Size of flywheel housing and flywheel		SAE #0 and 18 in.
Dry mass	kg	2365 (without marine gear)
Dimensions (L×W×H)	mm	2000×1305×1431

Marine gear specifications

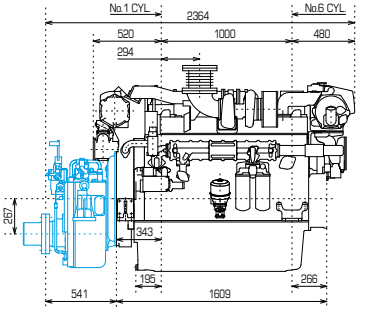
Engine model : 6AYM-WST H-rating			
Model	YX-181	YX-180L	YXH-240L
Type	Hydraulic multi-disc clutch		
Reduction ratio (Ahead)	2.08 2.55 3.03	3.50 4.00 4.54	4.13 4.48 4.89 5.36 5.91 6.57 6.95
Direction of rotation (propeller shaft)	Clockwise or counterclockwise		
Dry weight kg	560	680	1240

Dimensions Unit:mm

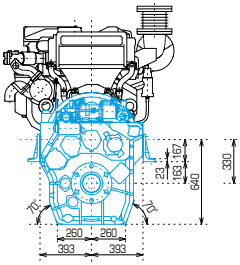
With YX181 gearbox / Rear view



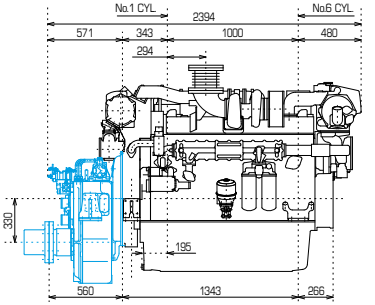
With YX181 gearbox / Right side view



With YX180L gearbox / Rear view

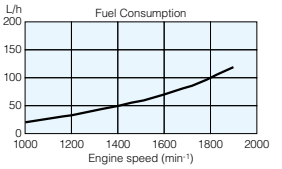


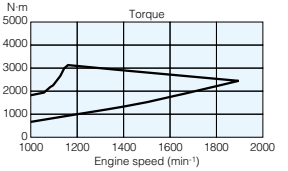
With YX180L gearbox / Right side view

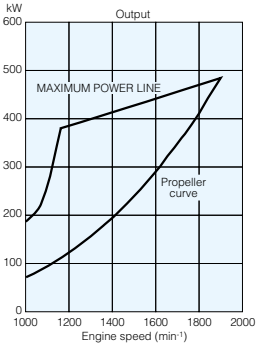


– Marine gear

Performance curves



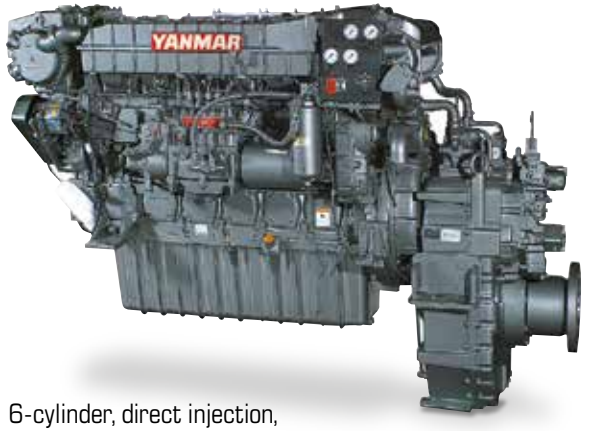




MARINE PROPULSION
DIESEL ENGINE

6AYM-WET

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.

Specifications

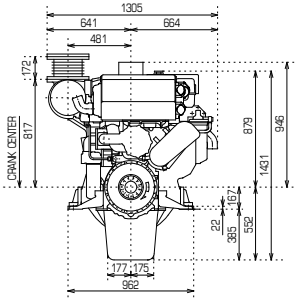
Model	6AYM-WET H-rating
Number of cylinders	6 in-line
Bore × stroke mm	155 × 180
Displacement lit.	20.379
Rated output kW(hp)/rpm	H : 555(755)/1840
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
Size of flywheel housing and flywheel	SAE #0 and 18 in.
Dry mass kg	2365 (without marine gear)
Dimensions (L×W×H) mm	2000×1305×1431

Marine gear specifications

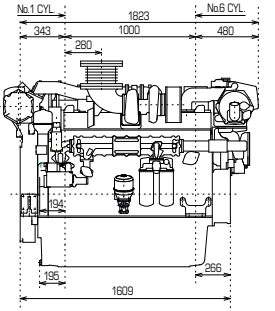
Engine model : 6AYM-WET H-rating		
Model	YXH-240	YXH-240L
Type	Hydraulic multi-disc clutch	
Reduction ratio (Ahead)	1.95 2.27 2.56 3.03 3.48	4.13 4.48 4.89 5.36 5.91 6.57 6.95
Direction of rotation (propeller shaft)	Clockwise or counterclockwise	
Dry weight kg	645	1240

Dimensions Unit:mm

Engine only / Front view

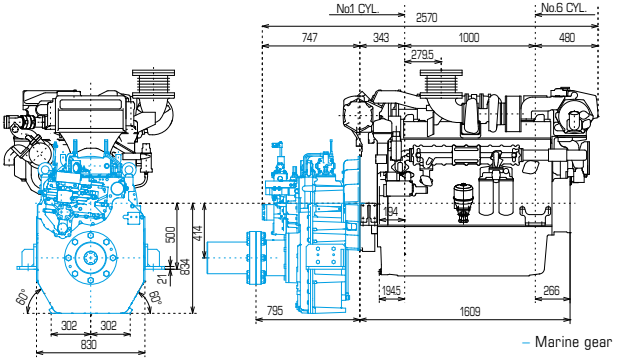


Engine only / Right side view

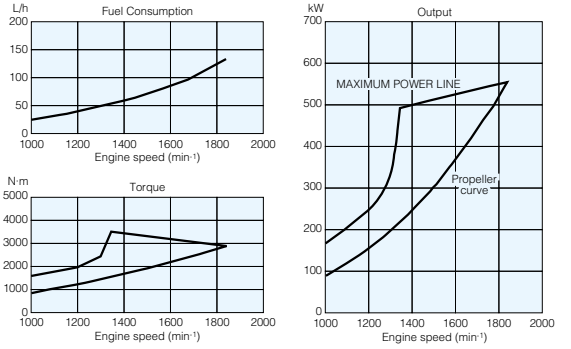


With YXH240L gearbox / Rear view

With YXH240L gearbox / Right side view



Performance curves



MARINE PROPULSION
DIESEL ENGINE

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.

Specifications

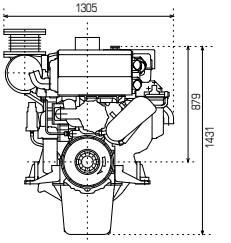
Model	6AYM-WET M-rating
Number of cylinders	6 in-line
Bore × stroke mm	155 × 180
Displacement lit.	20.379
Rated output kW(hp)/rpm	M : 610(829)/1900
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
Size of flywheel housing and flywheel	SAE #0 and 18 in.
Dry mass kg	2365 (without marine gear)
Dimensions (L×W×H) mm	2000×1305×1431

Marine gear specifications

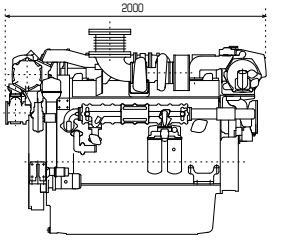
Engine model : 6AYM-WET M-rating		
Model	YXH-240	YXH-240L
Type	Hydraulic multi-disc clutch	
Reduction ratio (Ahead)	1.95 2.27 2.56 3.03 3.48	4.13 4.48 4.89 5.36 5.91 6.57 6.95
Direction of rotation (propeller shaft)	Clockwise or counterclockwise	
Dry weight kg	645	1240

Dimensions Unit:mm

Engine only / Front view

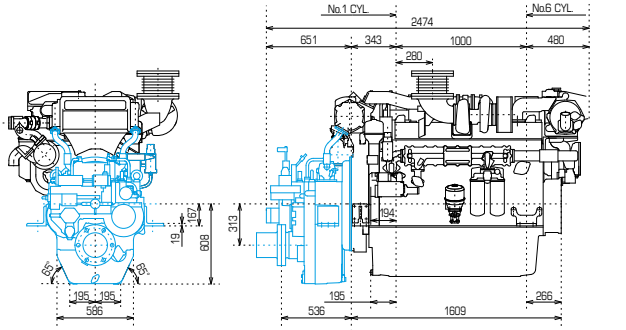


Engine only / Right side view



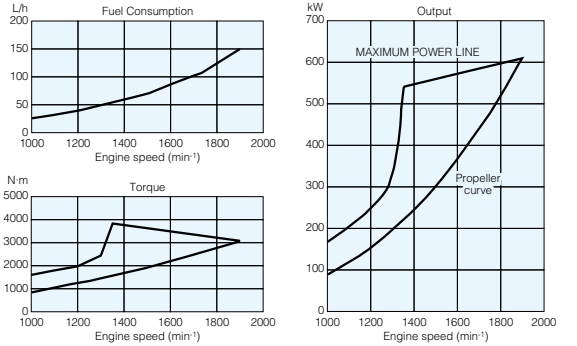
With YXH240 gearbox / Rear view

With YXH240 gearbox / Right side view



– Marine gear

Performance curves



MARINE PROPULSION
DIESEL ENGINE

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.

Specifications

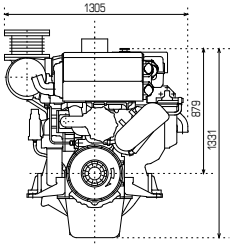
Model	6AYM-WGT L-rating
Number of cylinders	6 in-line
Bore × stroke mm	155 × 180
Displacement lit.	20.379
Rated output kW(hp)/rpm	L : 670(911)/1938
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
Size of flywheel housing and flywheel	SAE #0 and 18 in.
Dry mass kg	2365 (without marine gear)
Dimensions (L×W×H) mm	2000×1305×1431

Marine gear specifications

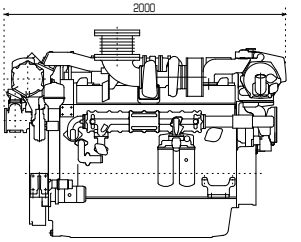
Engine model : 6AYM-WGT L-rating					
Model	YXH-240				
Type	Hydraulic multi-disc clutch				
Reduction ratio (Ahead)	1.95	2.27	2.56	3.03	3.48
Direction of rotation (propeller shaft)	Clockwise or counterclockwise				
Dry weight kg	645				

Dimensions Unit:mm

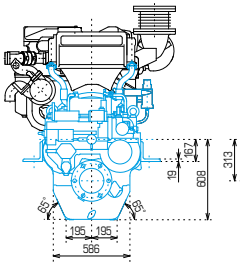
Engine only / Front view



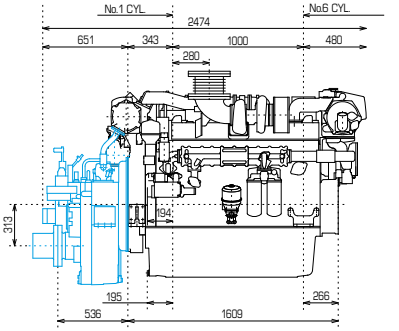
Engine only / Right side view (Shallow sump)



With YXH240 gearbox / Rear view

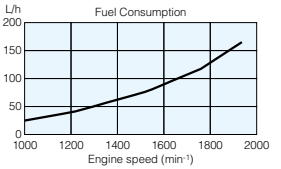


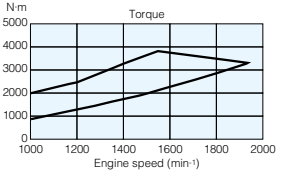
With YXH240 gearbox / Right side view

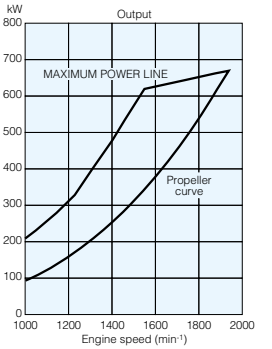


– Marine gear

Performance curves







MARINE PROPULSION
DIESEL ENGINE

6AYEM-ET

Continuous-rating 555kW (755mhp)
M-rating 610kW (829mhp)

- Common Rail system
- 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.

Specifications

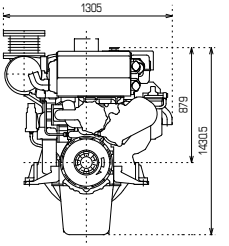
Model	6AYEM-WET
Number of cylinders	6 in-line
Bore × stroke mm	155 × 180
Displacement lit.	20.379
Rated output kW(hp)/rpm	M : 610(829)/1900 C : 555(755)/1840
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 8.0kW)
Cooling system	Heat exchanger
Size of flywheel housing and flywheel	SAE #0 and 18 in.
Dry mass kg	2418 (without marine gear)
Dimensions (L×W×H) mm	2000×1305×1531

Marine gear specifications

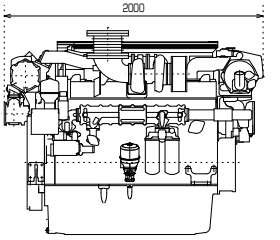
Engine model : 6AYM-WET M-rating	
Model	YXH-240-7
Type	Hydraulic multi-disc clutch
Reduction ratio (Ahead)	1.95 2.27 2.56 3.03 3.48
Direction of rotation (propeller shaft)	Clockwise or counterclockwise
Dry weight kg	632

Dimensions Unit:mm

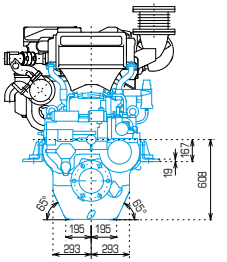
Engine only / Front view



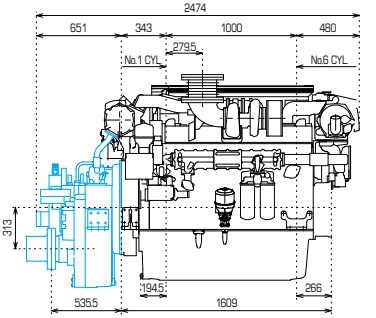
Engine only / Right side view



With YXH240 gearbox / Rear view

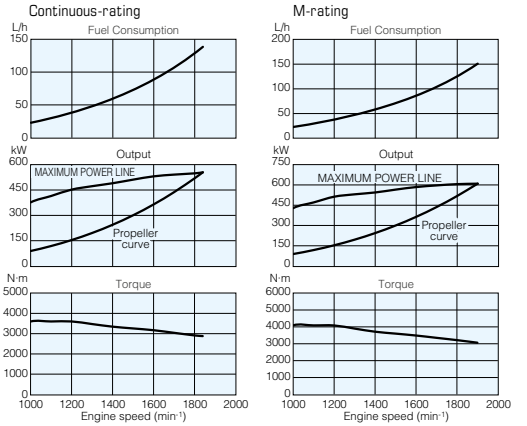


With YXH240 gearbox / Right side view



– Marine gear

Performance curves



MARINE PROPULSION DIESEL ENGINE

6AYEM-GT

L-rating 670kW (911mhp)
S-rating 737kW (1002mhp), 749kW (1018mhp)

- Common Rail system
- 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.

Specifications

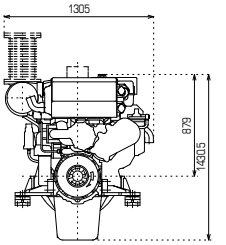
Model		6AYEM-WGT
Number of cylinders		6 in-line
Bore × stroke	mm	155 × 180
Displacement	lit.	20.379
Rated output	kW(hp)/rpm	L : 670(911)/1938, S : 737(1002)/2000, S : 749(1018)/2000
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V 8.0kW)
Cooling system		Heat exchanger
Size of flywheel housing and flywheel		SAE #0 and 18 in.
Dry mass	kg	2418 (without marine gear)
Dimensions (L×W×H)	mm	2000×1305×1531

Marine gear specifications

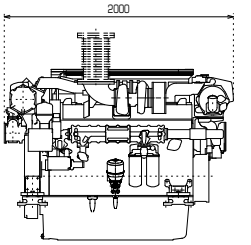
Engine model : 6AYM-WGT		
Model		YXH-240-7
Type		Hydraulic multi-disc clutch
Reduction ratio (Ahead)		1.95 2.27 2.56 3.03 3.48
Direction of rotation (propeller shaft)		Clockwise or counterclockwise
Dry weight	kg	632

Dimensions Unit:mm

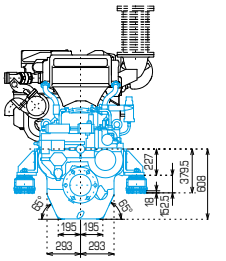
Engine only / Front view



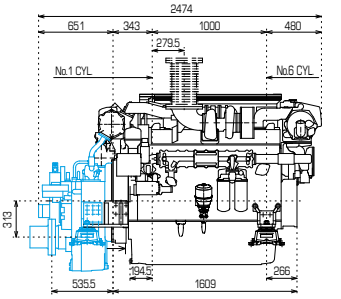
Engine only / Right side view (Shallow sump)



With YXH240 gearbox / Rear view

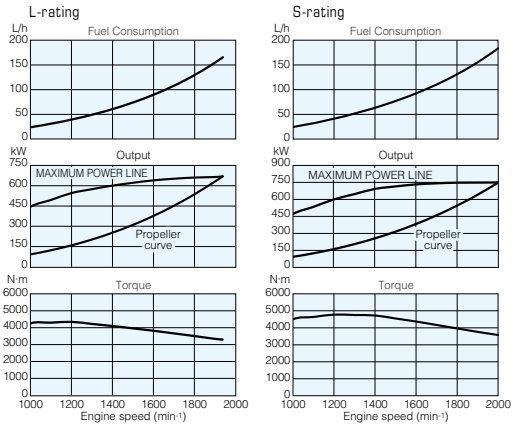


With YXH240 gearbox / Right side view



– Marine gear

Performance curves



MARINE PROPULSION DIESEL ENGINE

12AYM-WST

H-rating 882kW (1200mhp)
H-rating 1030kW (1400mhp)

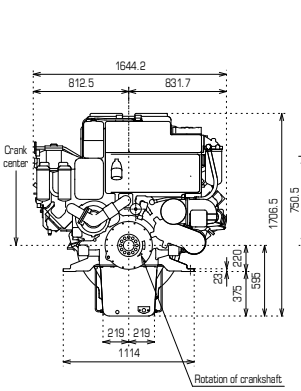
- V-type, 12-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.

Specifications

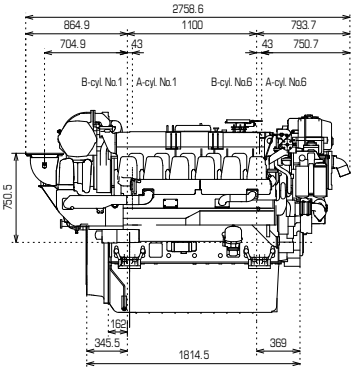
Model		12AYM-WST H-rating
Number of cylinders		12 V-type
Bore × stroke	mm	155 × 180
Displacement	lit.	40.76
Rated output	kW(hp)/rpm	H : 882(1200)/1850
		H : 1030(1400)/1900
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V-8.0kW)×2 or air motor×2
Cooling system		Constant high temperature cooling system
Size of flywheel housing and flywheel		SAE #00 and 21 in.
Dry mass	kg	4950 (without marine gear)
Dimensions (L×W×H)	mm	2759×1644×1707

Dimensions Unit:mm

Engine only / Front view

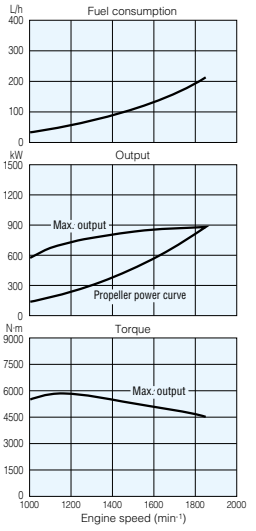


Engine only / Right side view

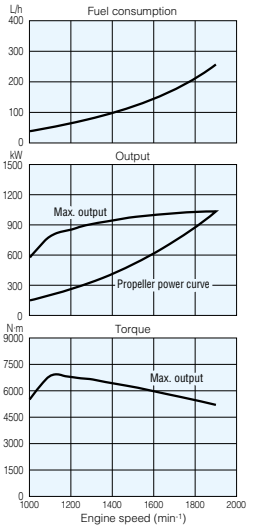


Performance curves

H rating 882kW (1200mhp)



H rating 1030kW (1400mhp)



MARINE PROPULSION
DIESEL ENGINE

12AYM-WET

H-rating 1140kW (1550mhp)
M-rating 1220kW (1659mhp)

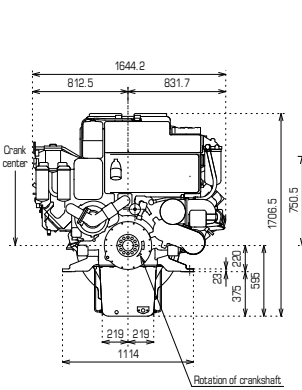
- V-type, 12-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.

Specifications

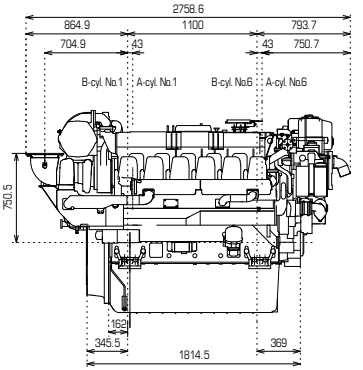
Model		12AYM-WET H-rating / M-rating
Number of cylinders		12 V-type
Bore × stroke	mm	155 × 180
Displacement	lit.	40.76
Rated output	kW(hp)/rpm	H : 1140(1550)/1840
		M : 1220(1659)/1900
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V-8.0kW)×2 or air motor×2
Cooling system		Constant high temperature cooling system
Size of flywheel housing and flywheel		SAE #00 and 21 in.
Dry mass	kg	4950 (without marine gear)
Dimensions (L×W×H)	mm	2759×1644×1707

Dimensions Unit:mm

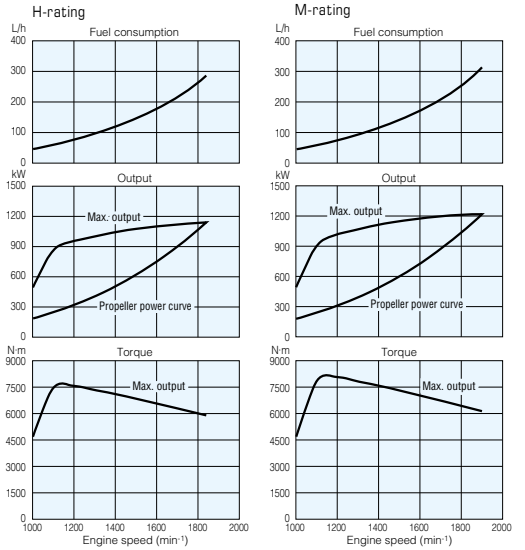
Engine only / Front view



Engine only / Right side view



Performance curves



MARINE PROPULSION
DIESEL ENGINE

12AYM-WGT

L-rating 1340kW (1822mhp)

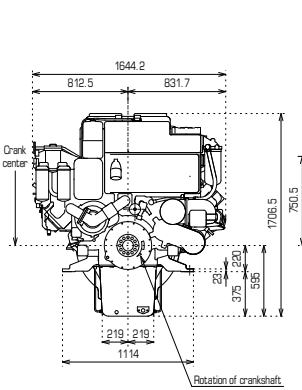
- V-type, 12-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.

Specifications

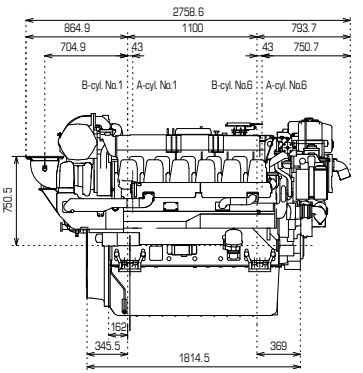
Model		12AYM-WGT L-rating
Number of cylinders		12 V-type
Bore × stroke	mm	155 × 180
Displacement	lit.	40.76
Rated output	kW(hp)/rpm	L : 1340(1822)/1940
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V-8.0kW)×2 or air motor×2
Cooling system		Constant high temperature cooling system
Size of flywheel housing and flywheel		SAE #00 and 21 in.
Dry mass	kg	4950 (without marine gear)
Dimensions (L×W×H)	mm	2759×1644×1707

Dimensions Unit:mm

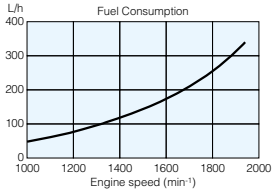
Engine only / Front view

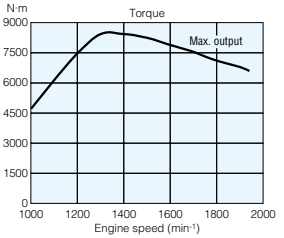


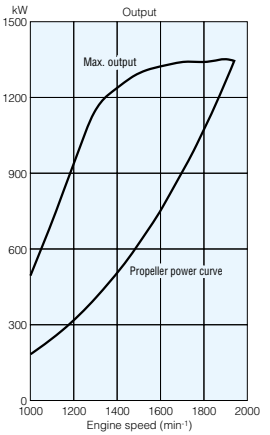
Engine only / Right side view



Performance curves



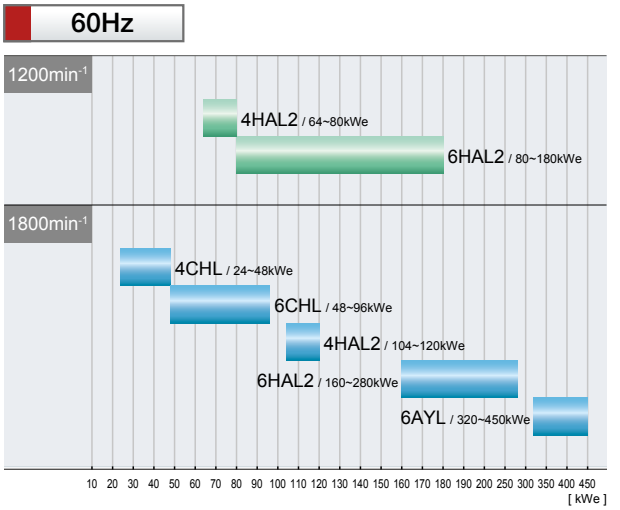


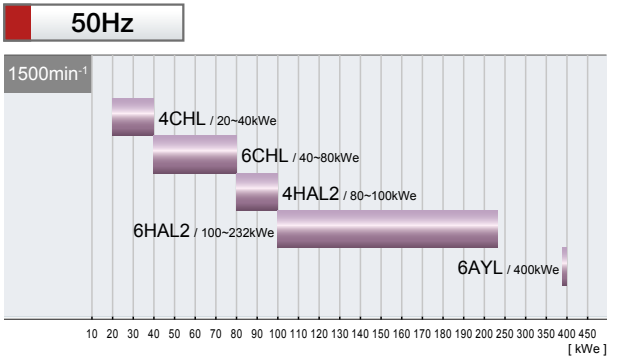


MARINE AUXILIARY DIESEL ENGINE

Marine Auxiliary Diesel Engine Line-up

Generator Capacity





MARINE AUXILIARY DIESEL ENGINE

4CHL

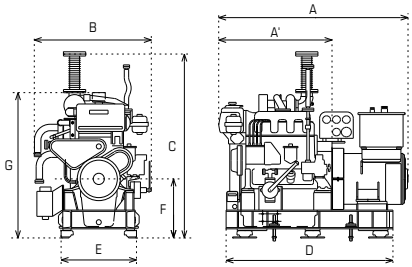
Generator Capacity
20~48kWe

Specifications

Engine Model	4CHL-N				4CHL-TN		4CHL-TNA	
Type	Vertical, Watar-cooled, 4-stroke Diesel							
No. of Cylinders	In-line 4							
Cylinder Bore × Stroke mm	105×125							
Continuous Rated Output kW(PS)	27.9 (38)		36.8 (50)		36.8 (50)	45.6 (62)	45.6 (62)	54.4 (74)
Generator Capacity kWe(kVA)	20 (25)	24 (30)	24 (30)	32 (40)	32 (40)	40 (50)	40 (50)	48 (60)
Engine Speed min^{-1}	1500		1800		1500	1800	1500	1800
Combustion system	Direct injection							
Starting system	Electric Starting or Air-motor starting							
Dry Weight kg	500				520			
Total Weight (Gen.Set) kg	940		990		1040		1090	

The engine dry weight may differ depending upon the specifications and attached accessories.
Above generator capacity will vary according to actual generator efficiency.

- In case of 4CHL-TNA, continuous load operation shall be 80% or below of rated power, and 100% load operation shall be within 2 hours per 12 hours.



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

Dimensions (mm)

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

Depending on the specifications or options that have been chosen, your model may differ slightly from the one in the photograph and outline.

MARINE AUXILIARY DIESEL ENGINE

6CHL

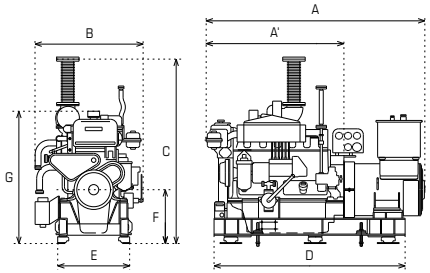
Generator Capacity
40~96kWe

Specifications

Engine Model	6CHL-N	6CHL-TN	6CHL-TNA	6CHL-HTN	6CHL-HTNA
Type	Vertical, Watar-cooled, 4-stroke Diesel				
No. of Cylinders	In-line 6				
Cylinder Bore × Stroke mm	105×125				
Continuous Rated Output kW(PS)	45.6 (62) / 54.4 (74)	54.4 (74) / 73.6 (100)	67.7 (92) / 89.7 (122)	73.6 (100) / 88.3 (120)	91.9 (125) / 107 (145)
Generator Capacity kWe(kVA)	40 (50) / 48 (60)	48 (60) / 64 (80)	60 (75) / 80 (100)	64 (80) / 80 (100)	80 (100) / 96 (120)
Engine Speed min^{-1}	1500	1800	1500	1800	1500	1800	1500	1800	1500	1800
Combustion system	Direct injection				
Starting system	Electric Starting or Air-motor starting				
Dry Weight kg	625	645	645	675	675
Total Weight (Gen.Set) kg	1220	1350	1350	1380	1540

The engine dry weight may differ depending upon the specifications and attached accessories.
Above generator capacity will vary according to actual generator efficiency.

- In case of 6CHL-TNA / 6CHL-HTNA, continuous load operation shall be 80% or below of rated power, and 100% load operation shall be within 2 hours per 12 hours.



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

Dimensions (mm)

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

Depending on the specifications or options that have been chosen, your model may differ slightly from the one in the photograph and outline.

MARINE AUXILIARY DIESEL ENGINE

4HAL2

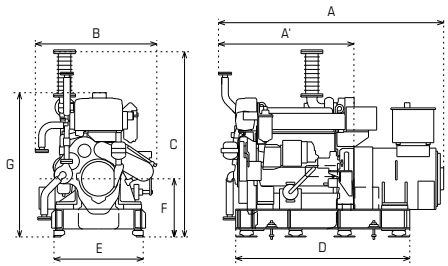
Generator Capacity

64~120kWe

Specifications

Engine Model	4HAL2-TN1			4HAL2-TN		4HAL2-WT
Type	Vertical, Watar-cooled, 4-stroke Diesel					
No. of Cylinders	In-line 4					
Cylinder Bore × Stroke mm	130×165					
Continuous Rated Output kW(PS)	72 (98)	89 (121)	116 (157)	90 (122)	115 (156)	135 (183)
Generator Capacity kWe(kVA)	64 (80)	80 (100)	104 (130)	80 (100)	100 (125)	120 (150)
Engine Speed min^{-1}	1200	1500	1800	1200	1500	1800
Combustion system	Direct injection					
Starting system	Electric Starting or Air-motor starting					
Dry Weight kg	1030					
Total Weight (Gen.Set) kg	1855					

The engine dry weight may differ depending upon the specifications and attached accessories.
Above generator capacity will vary according to actual generator efficiency.



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

Dimensions (mm)

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

Depending on the specifications or options that have been chosen, your model may differ slightly from the one in the photograph and outline.

MARINE AUXILIARY DIESEL ENGINE

6HAL2

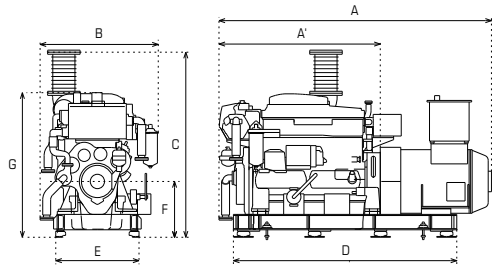
Generator Capacity

80~280kWe

Specifications

Engine Model	6HAL2-N	6HAL2-TN	6HAL2-WT	6HAL2-WHT	6HAL2-WDT
Type	Vertical, Watar-cooled, 4-stroke Diesel				
No. of Cylinders	In-line 6				
Cylinder Bore × Stroke mm	130×165				
Continuous Rated Output kW(PS)	90 (122) / 115 (156) / 120 (163) / 150 (204) / 180 (244) / 160 (217) / 220 (299) / 265 (360) / 200 (271) / 255 (346) / 305 (414)				
Generator Capacity kWe(kVA)	80 (100) / 100 (125) / 104 (130) / 136 (170) / 160 (200) / 144 (180) / 200 (250) / 240 (300) / 180 (225) / 232 (290) / 280 (350)				
Engine Speed min^{-1}	1200 / 1500 / 1200 / 1500 / 1800 / 1200 / 1500 / 1800 / 1200 / 1500 / 1800				
Combustion system	Direct injection				
Starting system	Electric Starting or Air-motor starting				
Dry Weight kg	1380	1422	1437	1447	
Total Weight (Gen.Set.) kg	2360	2410	2750	2850	

The engine dry weight may differ depending upon the specifications and attached accessories.
Above generator capacity will vary according to actual generator efficiency.



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

Dimensions (mm)

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

Depending on the specifications or options that have been chosen, your model may differ slightly from the one in the photograph and outline.
• The various usage conditions, usage purposes, functions, terminology and expressions given in this catalogue are based on YANMAR CO., LTD. standards.

MARINE AUXILIARY DIESEL ENGINE

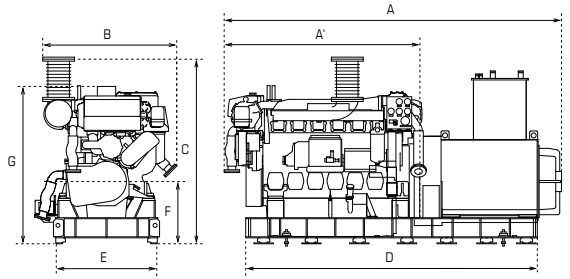
6AYL

Generator Capacity
320~450kWe

Specifications

Engine Model	6AYL-WST	6AYL-WET	
Type	Vertical, Watar-cooled, 4-stroke Diesel		
No. of Cylinders	In-line 6		
Cylinder Bore × Stroke mm	155×180		
Continuous Rated Output kW(PS)	353 (480)	438 (596)	491 (668)
Generator Capacity kWe(kVA)	320 (400)	400 (500)	450 (562.5)
Engine Speed min^{-1}	1800	1500	1800
Combustion system	Direct injection		
Starting system	Electric Starting or Air-motor starting		
Dry Weight kg	2475	2475	
Total Weight (Gen.Set) kg	4600	4750	

The engine dry weight may differ depending upon the specifications and attached accessories.
Above generator capacity will vary according to actual generator efficiency.



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

Dimensions (mm)

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

Depending on the specifications or options that have been chosen, your model may differ slightly from the one in the photograph and outline.

YANMAR CO., LTD.
Head Office
YANMAR FLYING-Y BUILDING, 1-32,
Chayamachi, Kita-ku, Osaka, 530-8311, Japan
yanmar.com

YANMAR ENGINE (SHANGHAI) CO., LTD.
10F, E-Block POLY PLAZA, No.18 Dongfanf Road,
Pudong Shanghai, China P.R.C 200120
Tel : 86-21-6880-5090 Fax : 86-21-6880-8090 / 6880-8682
cn.yanmar.com

YANMAR ASIA (SINGAPORE) CORP. PTE. LTD.
4 Tuas Lane, Singapore 638613
Tel : 65-6595-4200 Fax : 65-6862-5195
sg.yanmar.com

YANMAR EUROPE B.V.
Brugplein 11, 1332 BS Almere-de Vaart, The Netherlands
Tel : 31-36-5493200 Fax : 31-36-5493209
www.yanmar.nl

YANMAR AMERICA CORP. HEAD OFFICE
101 International Parkway, Adairsville, GA 30103, U.S.A.
Tel : 1-770-877-9894 Fax : 1-770-877-9009
us.yanmar.com

YANMAR SOUTH AMERICA INDUSTRIA DE MAQUINAS LTDA.
Av. Presidente Vargas 1400, Indaiatuba, S.P. CEP: 13338-901, Brazil
Tel : 55-19-3801-9224 Fax : 55-19-3875-3899 / 2241
www.yanmar.com.br/

Head Office
Yanmar Co., Ltd
YANMAR FLYING-Y BUILDING
1-32 Chayamachi, Kita-ku,
530-8311 Osaka, Japan
www.yanmar.com

Regional Office / Sales & Service
Yanmar Europe B.V.
Brugplein 11, 1332 BS Almere, The Netherlands
T: +31 (0)36 549 3200
F: +31 (0)36 549 3209
E: sales-commercialmarine-yeu@yanmar.com
www.yanmar.eu

EN-CHSMPH-0616