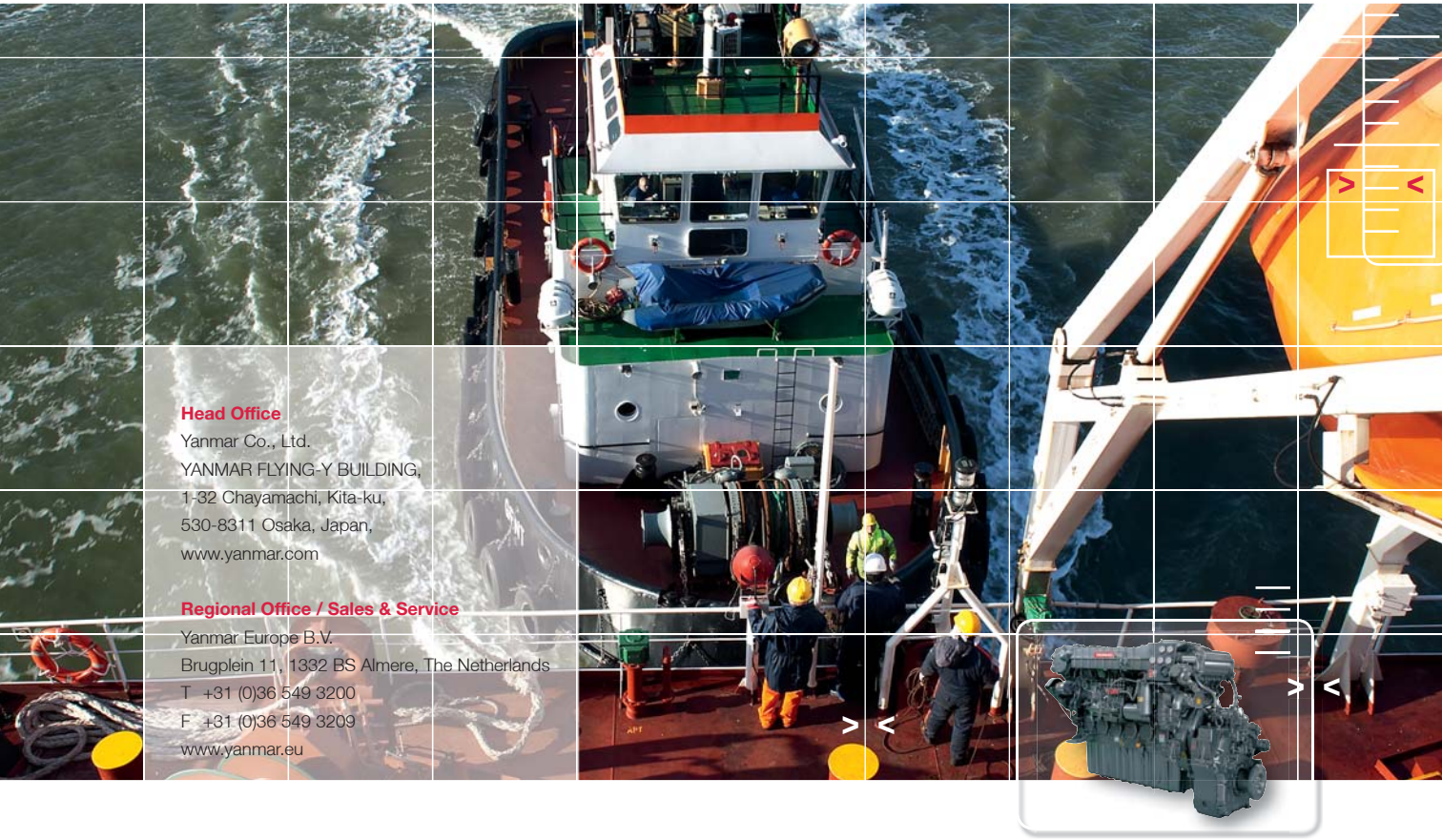
YANMAR

MARINE PRODUCT HANDBOOK

COMMERCIAL HIGH SPEED DIESEL ENGINES

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



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EN-CHSMPH-0115

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

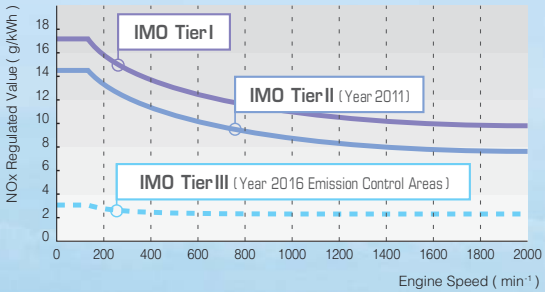
Our pride is to contribute to tough and valuable activities of customers on the sea.

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.

IMO NOx Emission Limits



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.

S = For applications where use of rated power is less than 30 minutes continuous out of every 90 minutes and operation is less than 1000 hours per year.
When combined with a correctly matched propeller which allows the engine rated rpm to be achieved in a fully loaded vessel state, the reduced-power operation can be at or below 50-100 rpm of the rated speed.
L = For applications where use of rated power is less than 2 hours continuous out of every 5 hours and operation is less than 2000 hours per year.
When combined with a correctly matched propeller which allows the engine rated rpm to be achieved in a fully loaded vessel state, the reduced-power operation can be at or below 50-100 rpm of the rated speed.
M = For applications where use of rated power is less than 10 hours continuous out of every 16 hours and operation is less than 3000 hours per year.
When combined with a correctly matched propeller which allows the engine rated rpm to be achieved in a fully loaded vessel state, the reduced-power operation can be at or below 50-100 rpm of the rated speed.
H = For applications where use of rated power is less than 24hours continuous out of every 30 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 50-100 rpm of the rated speed.

* 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.

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

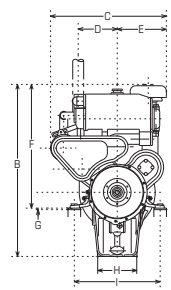
Model	4CHE3	6CHE3
Number of cylinders	4 in-line	6 in-line
Bore × stroke mm	105 × 125	
Displacement lit.	4.330	6.494
Rated output kW(hp)/rpm	M : 57.4(78)/2550	M : 84.6(115)/2550
	L : 62.5(85)/2600	L : 95.6(130)/2600
Combustion system	Direct injection	
Aspiration	Natural aspirated	
Starting system	Electric 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

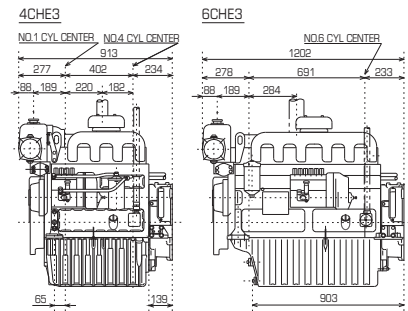
Engine model : 4CHE3 · 6CHE3	
Model	YX-30
Type	Hydraulic multi-disc clutch, wet type
Reduction ratio (Ahead)	2.03 2.55 2.96 3.48
Direction of rotation (propeller shaft)	Clockwise or counter-clockwise viewed from stern
Dry weight kg	70

Dimensions Unit:mm

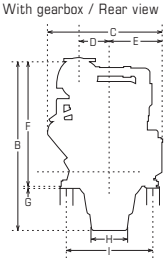
Engine only / Front view



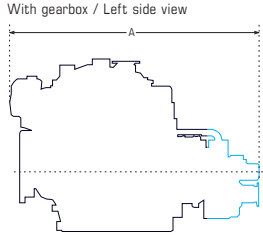
Engine only / Left side view



With gearbox / Rear view



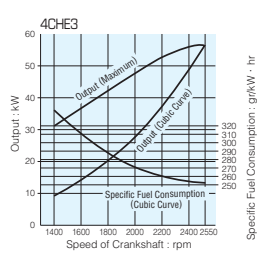
With gearbox / Left side view

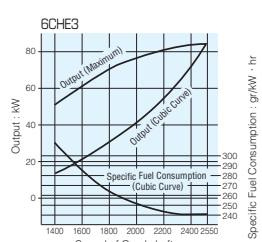


Model	A	B	C	D	E	F	G	H	I
4CHE3×YX-30-2	1258	1022	688	232	292	735	9	232	510
6CHE3×YX-30-2	1496	1018	690	233	300	737	9	233	550

– Marine gear

Performance curves





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

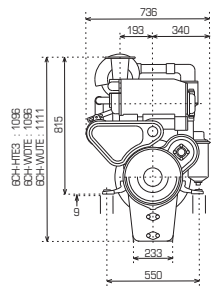
Model	6CH-HTE3	6CH-WUTE
Number of cylinders	6 in-line	
Bore × stroke mm	105 × 125	
Displacement lit.	6.494	
Rated output kW(hp)/rpm	M : 125(170)/2550	M : 188(255)/2550
	L : 140(190)/2600	L : 206(280)/2600
Combustion system	Direct injection	
Aspiration	Turbocharger + intercooler	
Starting system	Electric 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	1575×736×1096	1600×736×1111

Marine gear specifications

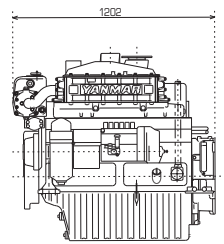
Engine model : 6CH-HTE3, 6CH-WUTE				
Model	YX-71			
Type	Hydraulic multi-disc clutch, wet type			
Reduction ratio (Ahead)	2.07	2.58	2.91	3.53
Direction of rotation (propeller shaft)	Clockwise or counter-clockwise viewed from stern			
Dry weight kg	220			

Dimensions Unit:mm

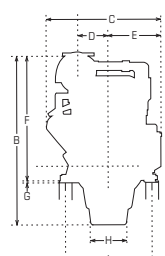
Engine only / Front view



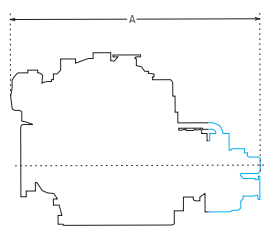
Engine only / Left side view



With gearbox / Front view



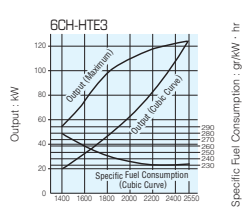
With gearbox / Left side view

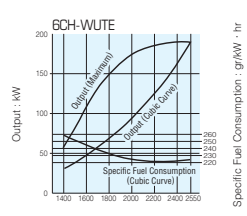


	A	B	C	D	E	F	G	H	I
6CH-HTE3×YX-71	1600	1096	736	193	340	815	9	233	550
6CH-WUTE×YX-71	1600	1111	736	193	340	815	9	233	550

– Marine gear

Performance curves





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

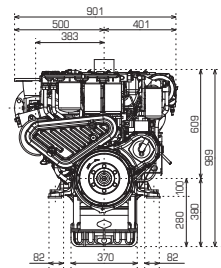
Model		6CXBM-GT
Number of cylinders		6 in-line
Bore × stroke	mm	110 × 130
Displacement	lit.	7.413
Rated output	kW(hp)/rpm	H : 265(360)/2400
		M : 294(400)/2500
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V 5.0kW)
Cooling system		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

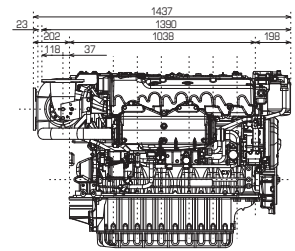
Engine model : 6CXBM-GT			
Model		YX-75	YXH2-130(2 speed type)
Type		Hydraulic multi-disc clutch, wet type	
Reduction ratio (Ahead)		2.07 2.58 2.91	2.03/2.62 2.57/3.35 3.04/4.00
Direction of rotation (propeller shaft)		Clockwise or counter-clockwise viewed from stern	Counter-clockwise viewed from stern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

Dimensions Unit:mm

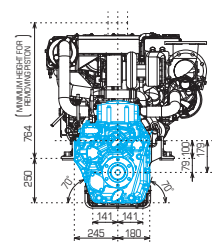
Engine only / Front view



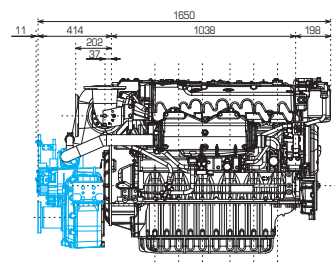
Engine only / Right side view



With YX75 gearbox / Rear view



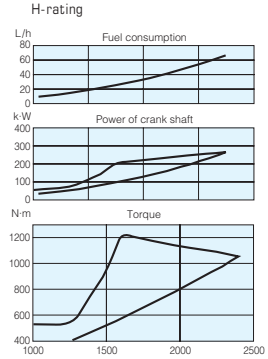
With YX75 gearbox / Right side view



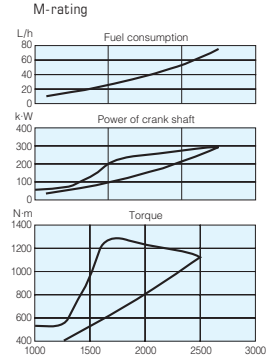
– Marine gear

Performance curves

H-rating



M-rating



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

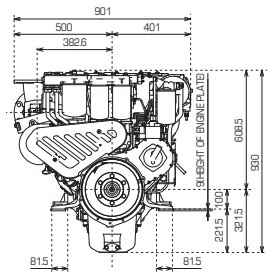
Marine gear specifications

Engine model : 6CXBM-GT		
Model		YX-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

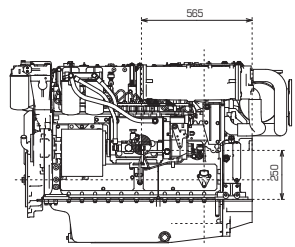
Dimensions Unit:mm

with optional shallow oil sump

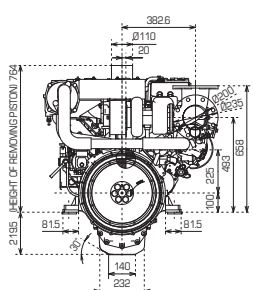
Engine only / Front view



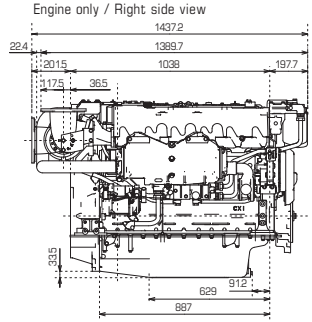
Engine only / Left side view



Engine only / Rear view

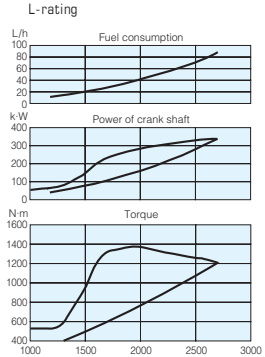


Engine only / Right side view

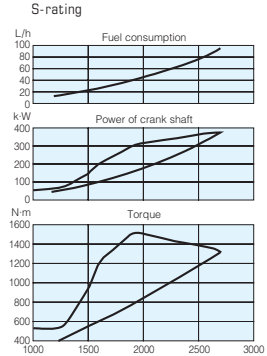


Performance curves

L-rating



S-rating



MARINE PROPULSION DIESEL ENGINE

6HA2M-WHT

H-rating 204kW (278mhp)

- 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

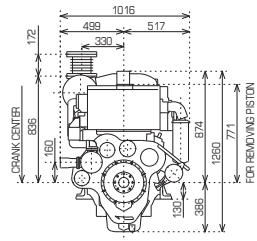
Model	6HA2M-WHT
Number of cylinders	6 in-line
Bore × stroke mm	130 × 165
Displacement lit.	13.140
Rated output kW(hp)/rpm	H : 204(278)/1880
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 6.0kW)
Cooling system	Heat exchanger
Size of 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

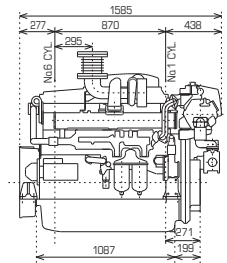
Engine model : 6HA2M-WHT						
Model	YX-120				YX-120L	
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	2.03	2.57	3.04	3.55	4.00	4.59
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight kg	315				411	

Dimensions Unit:mm

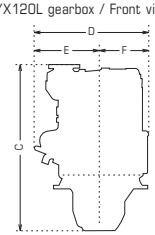
Engine only / Front view



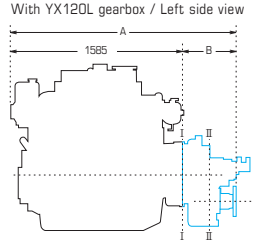
Engine only / Right side view



With YX120L gearbox / Front view



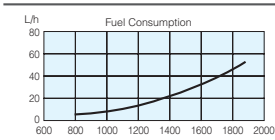
With YX120L gearbox / Left side view

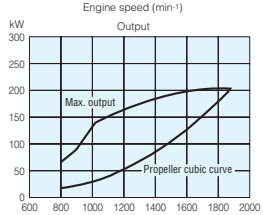


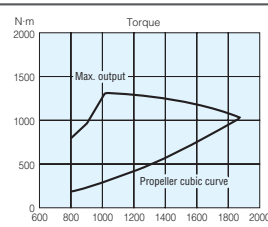
Model	A	B	C	D	E	F
6HA2M-WHT×YX-120	2005	420	1272	1016	499	517
6HA2M-WHT×YX-120L	2039	454	1384	1016	499	517

– Marine gear

Performance curves







MARINE PROPULSION DIESEL ENGINE

6HA2M-WHT

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

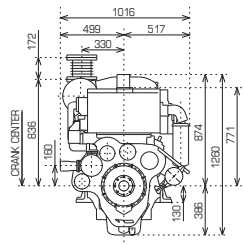
Model	6HA2M-WHT
Number of cylinders	6 in-line
Bore × stroke mm	130 × 165
Displacement lit.	13.140
Rated output kW(hp)/rpm	M: 257(350)/1950
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 6.0kW)
Cooling system	Heat exchanger
Size of 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

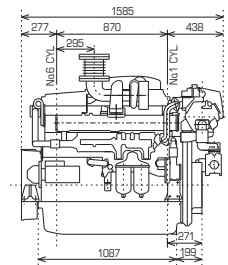
Engine model : 6HA2M-WHT						
Model	YX-120				YX-120L	
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	2.03	2.57	3.04	3.55	4.00	4.59
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight kg	315				411	

Dimensions Unit:mm

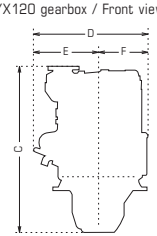
Engine only / Front view



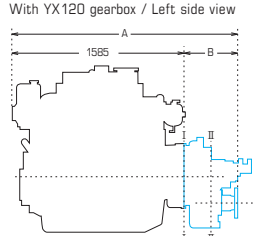
Engine only / Right side view



With YX120 gearbox / Front view



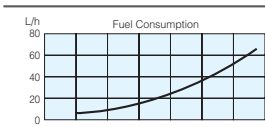
With YX120 gearbox / Left side view

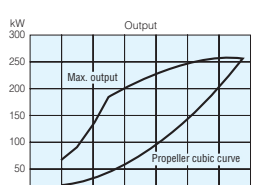


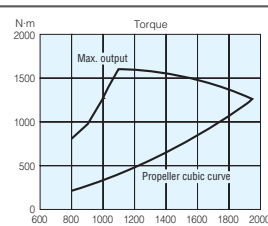
	A	B	C	D	E	F
6HA2M-WHT×YX-120	2005	420	1272	1016	499	517
6HA2M-WHT×YX-120L	2039	454	1384	1016	499	517

– Marine gear

Performance curves







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

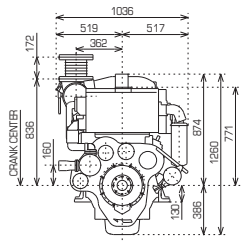
Model	6HA2M-WDT
Number of cylinders	6 in-line
Bore × stroke mm	130 × 165
Displacement lit.	13.140
Rated output kW(hp)/rpm	M: 298(405)/1950
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 6.0kW)
Cooling system	Heat exchanger
Size of flywheel housing and flywheel	SAE #1 and 14 in.
Dry mass (without marine gear) kg	1465
Dimensions (L×W×H) mm	1586×1037×1260

Marine gear specifications

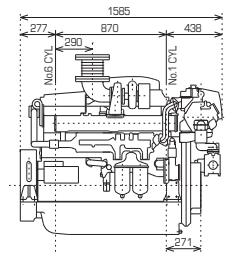
Engine model : 6HA2M-WDT						
Model	YX-120			YX-120L		
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	2.03	2.57	3.04	3.46	4.00	4.59
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight kg	315			411		

Dimensions Unit:mm

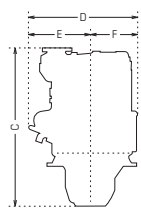
Engine only / Front view



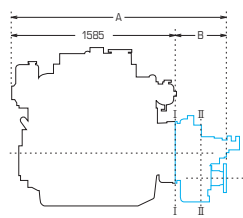
Engine only / Left side view



With YX120 gearbox / Front view



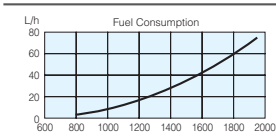
With YX120 gearbox / Left side view

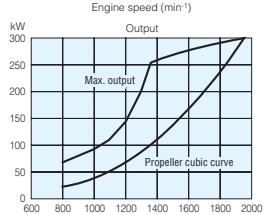


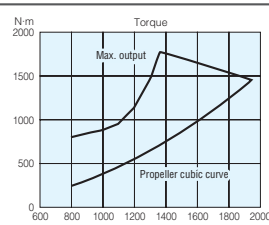
	A	B	C	D	E	F
6HA2M-WDT×YX-120	2005	420	1272	1036	519	517
6HA2M-WDT×YX-120L	2039	454	1384	1036	519	517

– 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

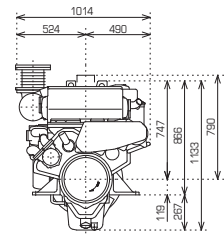
Model	6HYM-WET H-rating
Number of cylinders	6 in-line
Bore × stroke mm	132.9 × 165
Displacement lit.	13.733
Rated output kW(hp)/rpm	368(500)/1950
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 6.0kW)
Cooling system	Heat exchanger
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

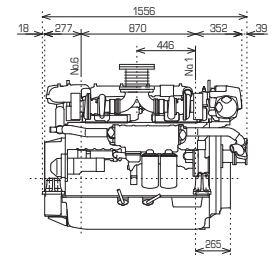
Engine model : 6HYM-WET H-rating		
Model	YXH-160	YX-161L
Type	Hydraulic multi-disc clutch	
Reduction ratio (Ahead)	1.97 246 3.05	3.65 4.08 4.55
Direction of rotation (propeller shaft)	Clockwise or counterclockwise	
Dry weight kg	390	620

Dimensions Unit:mm

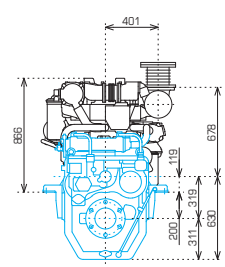
Engine only / Front view



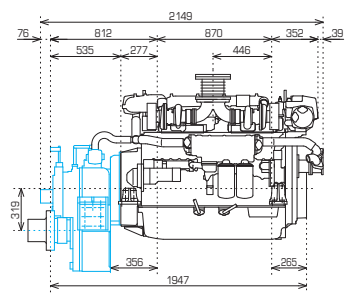
Engine only / Right side view



With YX161L gearbox / Rear view

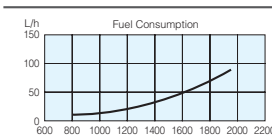


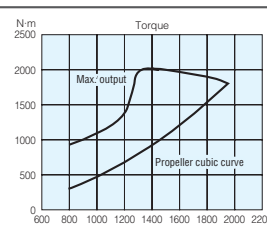
With YX161L gearbox / Right side view

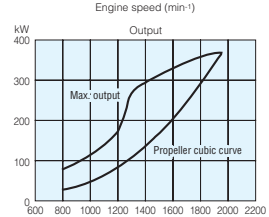


– Marine gear

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

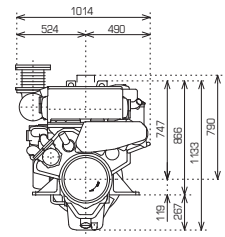
Model	6HYM-WET M-rating / L-rating
Number of cylinders	6 in-line
Bore × stroke mm	132.9 × 165
Displacement lit.	13.733
Rated output kW(hp)/rpm	M : 441(600)/2100
	L : 478(650)/2150
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 6.0kW)
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

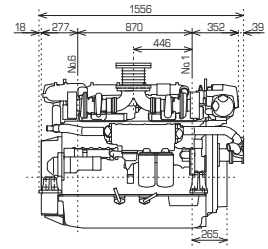
Engine model : 6HYM-WET M-rating / L-rating						
Model	YXH-160			YX-161L		
Type	Hydraulic multi-disc clutch					
Reduction ratio (Ahead)	1.97	2.46	3.05	3.65	4.08	4.55
Direction of rotation (propeller shaft)	Clockwise or counterclockwise					
Dry weight kg	390			620		

Dimensions Unit:mm

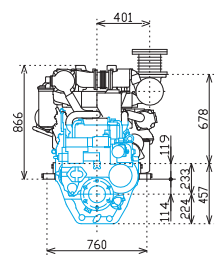
Engine only / Front view



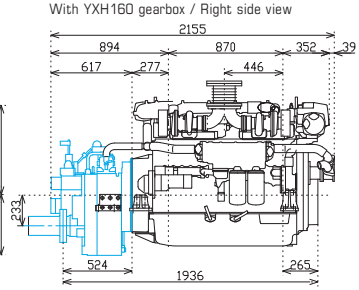
Engine only / Right side view



With YXH160 gearbox / Rear view

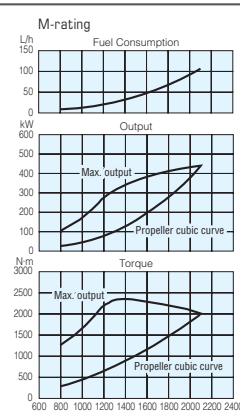


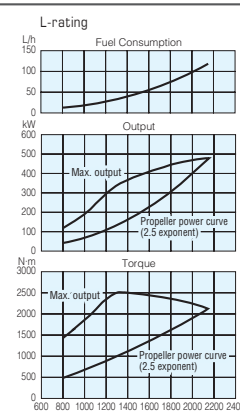
With YXH160 gearbox / Right side view



– Marine gear

Performance curves





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

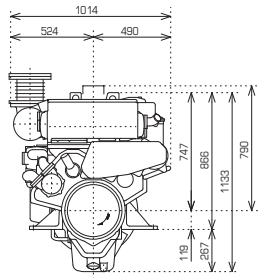
Model	6HYM-WET S-rating
Number of cylinders	6 in-line
Bore × stroke mm	132.9 × 165
Displacement lit.	13.733
Rated output kW(hp)/rpm	515(700)/2200
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 6.0kW)
Cooling system	Heat exchanger
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

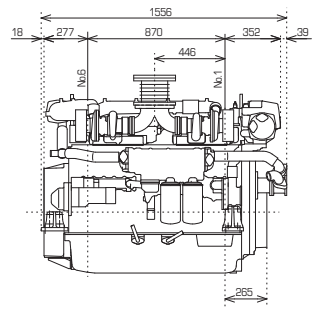
Engine model : 6HYM-WET S-rating			
Model	YXH-160		
Type	Hydraulic multi-disc clutch		
Reduction ratio (Ahead)	1.97	246	3.05
Direction of rotation (propeller shaft)	Clockwise or counterclockwise		
Dry weight kg	390		

Dimensions Unit:mm

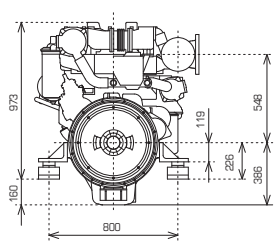
Engine only / Front view



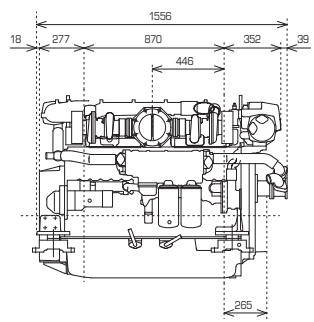
Engine only / Right side view



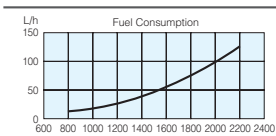
Engine only / Rear view

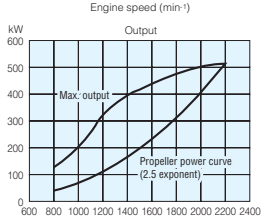


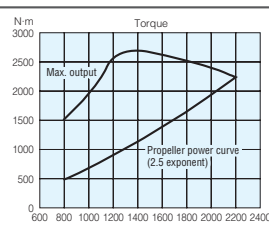
Engine only / Right side view



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

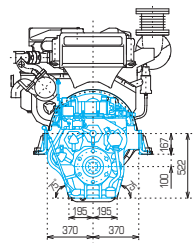
Model	6AYM-WST H-rating
Number of cylinders	6 in-line
Bore × stroke mm	155 × 180
Displacement lit.	20.379
Rated output kW(hp)/rpm	H : 485(659)/1900
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
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

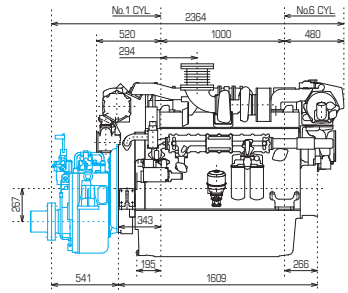
Engine model : 6AYM-WST H-rating			
Model	YX-181	YX-180L	YXH-240L
Type	Hydraulic multi-disc clutch		
Reduction ratio (Ahead)	2.08 2.55 3.03	3.50 4.00 4.54	4.89 5.36 5.91 6.57 6.95
Direction of rotation (propeller shaft)	Clockwise or counterclockwise		
Dry weight kg	560	680	1240

Dimensions Unit:mm

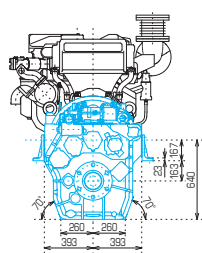
With YX181 gearbox / Rear view



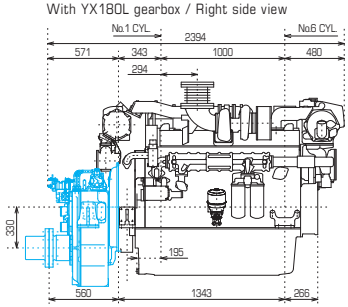
With YX181 gearbox / Right side view



With YX180L gearbox / Rear view

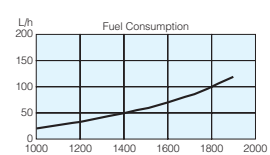


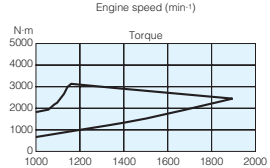
With YX180L gearbox / Right side view

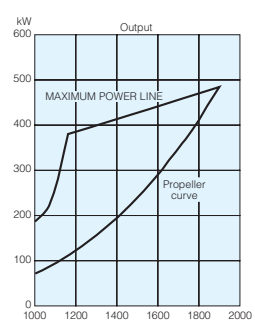


– Marine gear

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

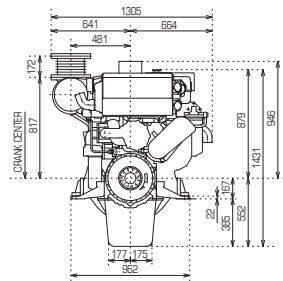
Model	6AYM-WET H-rating
Number of cylinders	6 in-line
Bore × stroke mm	155 × 180
Displacement lit.	20.379
Rated output kW(hp)/rpm	H : 555(755)/1840
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
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

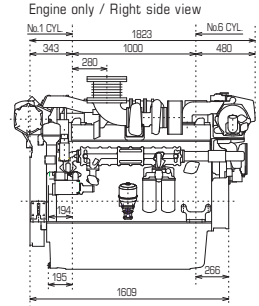
Engine model : 6AYM-WET H-rating		
Model	YXH-240	YXH-240L
Type	Hydraulic multi-disc clutch	
Reduction ratio (Ahead)	1.95 2.27 2.56 3.03 3.48	4.89 5.36 5.91 6.57 6.95
Direction of rotation (propeller shaft)	Clockwise or counterclockwise	
Dry weight kg	645	1240

Dimensions Unit:mm

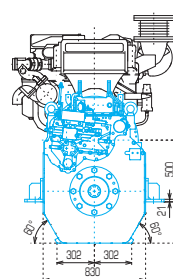
Engine only / Front view



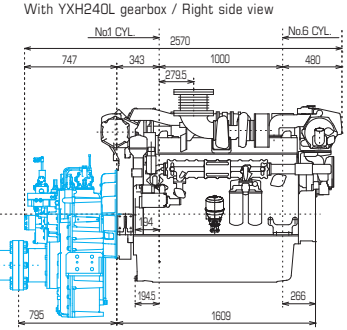
Engine only / Right side view



With YXH240L gearbox / Rear view

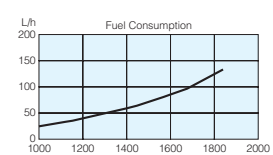


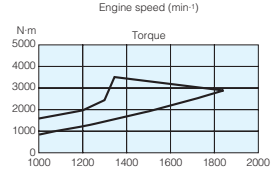
With YXH240L gearbox / Right side view

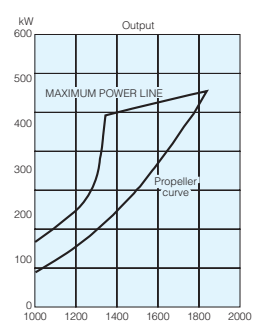


– Marine gear

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

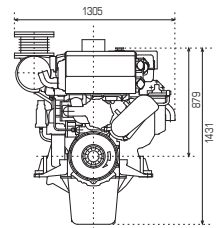
Model	6AYM-WET M-rating
Number of cylinders	6 in-line
Bore × stroke mm	155 × 180
Displacement lit.	20.379
Rated output kW(hp)/rpm	M : 610(829)/1900
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
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

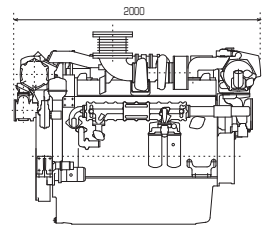
Engine model : 6AYM-WET M-rating		
Model	YXH-240	YXH-240L
Type	Hydraulic multi-disc clutch	
Reduction ratio (Ahead)	1.95 2.27 2.56 3.03 3.48	4.89 5.36 5.91 6.57 6.95
Direction of rotation (propeller shaft)	Clockwise or counterclockwise	
Dry weight kg	645	1240

Dimensions Unit:mm

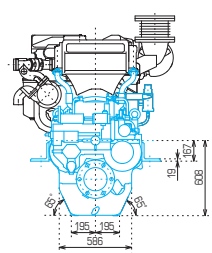
Engine only / Front view



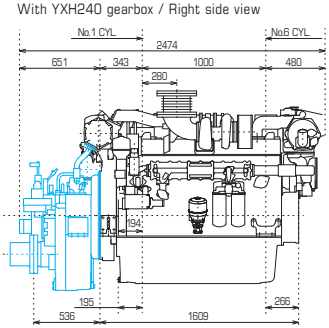
Engine only / Right side view



With YXH240 gearbox / Rear view

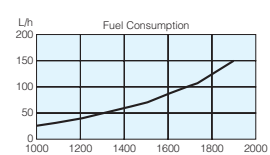


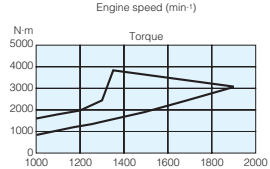
With YXH240 gearbox / Right side view

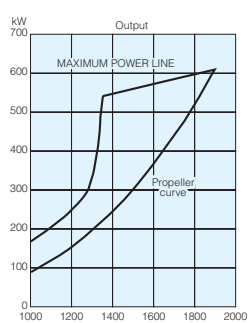


– Marine gear

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

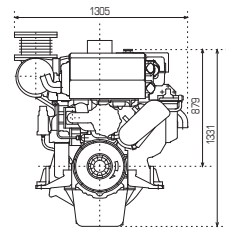
Model	6AYM-WGT L-rating
Number of cylinders	6 in-line
Bore × stroke mm	155 × 180
Displacement lit.	20.379
Rated output kW(hp)/rpm	L : 670(911)/1938
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V 7.0kW)
Cooling system	Heat exchanger
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

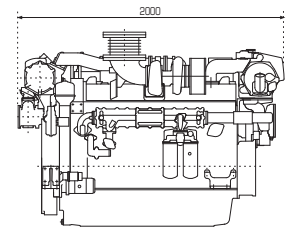
Engine model : 6AYM-WGT L-rating	
Model	YXH-240
Type	Hydraulic multi-disc clutch
Reduction ratio (Ahead)	1.95 2.27 2.56 3.03 3.48
Direction of rotation (propeller shaft)	Clockwise or counterclockwise
Dry weight kg	645

Dimensions Unit:mm

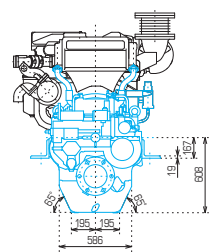
Engine only / Front view



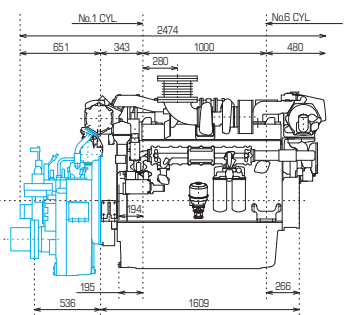
Engine only / Right side view (Shallow sump)



With YXH240 gearbox / Rear view

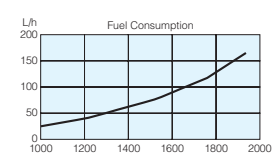


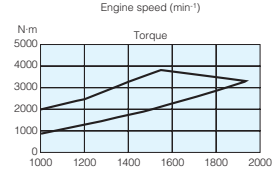
With YXH240 gearbox / Right side view

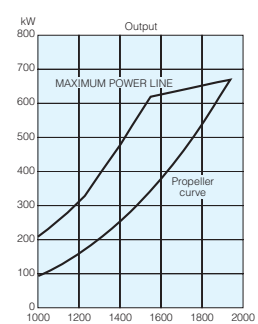


– Marine gear

Performance curves







MARINE PROPULSION DIESEL ENGINE

12AYM-WST

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

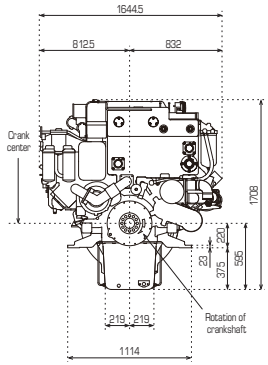
- V-type, 12-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.

Specifications

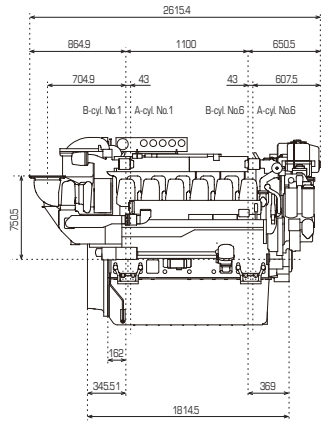
Model		12AYM-WST H-rating
Number of cylinders		12 V-type
Bore × stroke	mm	155 × 180
Displacement	lit.	40.76
Rated output	kW(hp)/rpm	H : 882(1200)/1850
		H : 1030(1400)/1900
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V-6.5kW)×2 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	4870 (without Fresh water cooler)
Dimensions (L×W×H)	mm	2615×1645×1708

Dimensions Unit:mm

Engine only / Front view

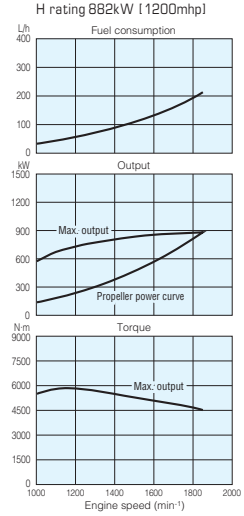


Engine only / Right side view

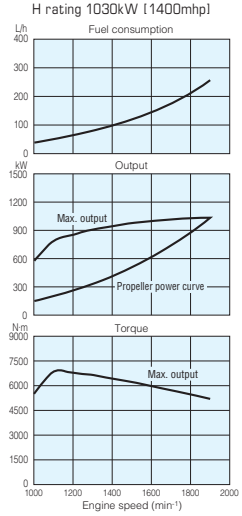


Performance curves

H rating 882kW (1200mhp)



H rating 1030kW (1400mhp)



MARINE PROPULSION DIESEL ENGINE

12AYM-WET

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

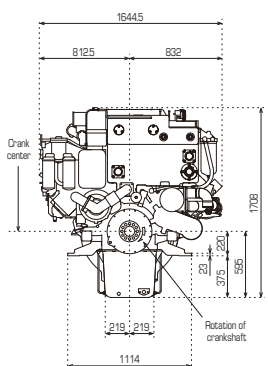
- V-type, 12-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.

Specifications

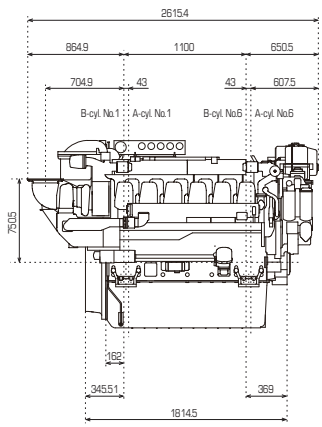
Model		12AYM-WET H-rating / M-rating
Number of cylinders		12 V-type
Bore × stroke	mm	155 × 180
Displacement	lit.	40.76
Rated output	kW(hp)/rpm	H : 1140(1550)/1840
		M : 1220(1659)/1900
Combustion system		Direct injection
Aspiration		Turbocharger + intercooler
Starting system		Electric starting motor (24V-6.5kW)×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	4870 (without Fresh water cooler)
Dimensions (L×W×H)	mm	2615×1645×1708

Dimensions Unit:mm

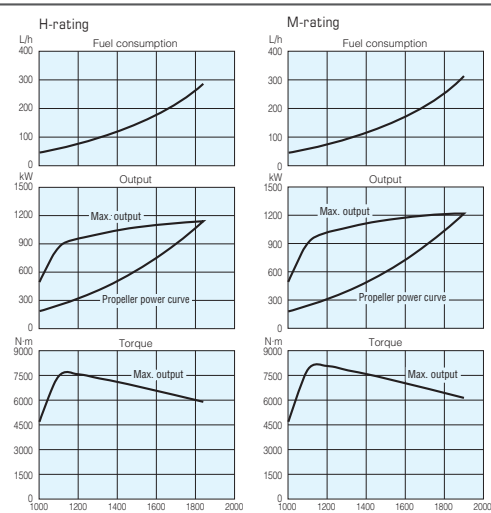
Engine only / Front view



Engine only / Right side view



Performance curves



MARINE PROPULSION DIESEL ENGINE

12AYM-WGT

L-rating 1340kW (1822mhp)

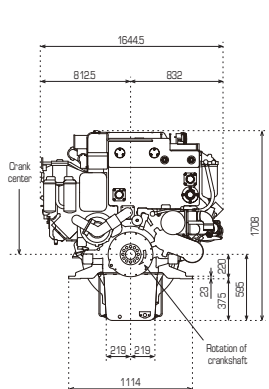
- V-type, 12-cylinder, direct injection, heat exchanger cooling.
- Turbocharger + intercooler.
- 4-valves per cylinder for higher combustion efficiency.
- Conform to IMO Tier II emissions regulations.

Specifications

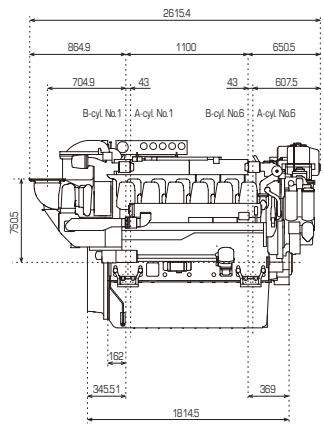
Model	12AYM-WGT L-rating
Number of cylinders	12 V-type
Bore × stroke mm	155 × 180
Displacement lit.	40.76
Rated output kW(hp)/rpm	L : 1340(1822)/1940
Combustion system	Direct injection
Aspiration	Turbocharger + intercooler
Starting system	Electric starting motor (24V-6.5kW)×2 or air motor×2
Cooling system	Constant high temperature cooling system
Size of flywheel housing and flywheel	SAE #00 and 21 in.
Dry mass kg	4870 (without Fresh water cooler)
Dimensions (L×W×H) mm	2615×1645×1708

Dimensions Unit:mm

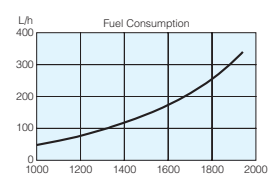
Engine only / Front view

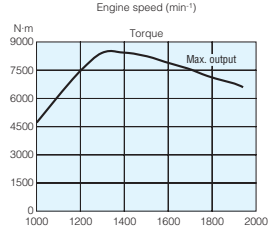


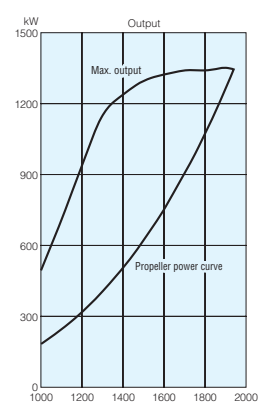
Engine only / Right side view



Performance curves







Notes

MARINE AUXILIARY DIESEL ENGINE

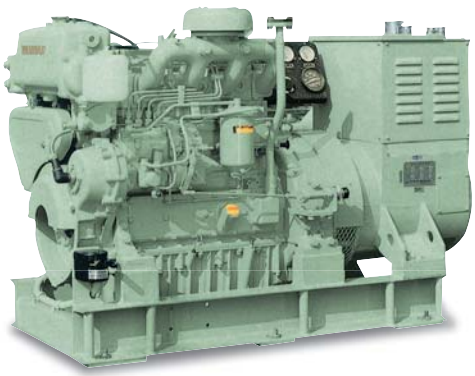
Operating Condition:
1. Operating hours per year, ≦ 4000.
2. Over load operation, 11/10 load of continuous rating power, (Within 1 hour by 12 hours).
3. Low load operation(against cont. rating power),
1/4(AYL:1/3) load or above, Allowable continuous operation.
1/8 to 1/4(AYL:1/6 to 1/3) load, Within 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.

MARINE AUXILIARY DIESEL ENGINE

4CHL series

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



- 4-cylinder, direct injection.
- Natural aspirated or turbocharged.

Specifications

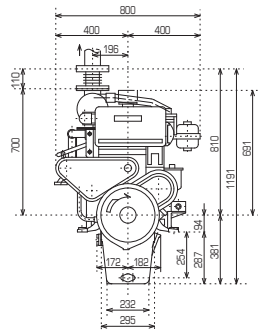
TNA is not Type approved.

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 (24)	40 (32)	40 (32)	50 (40)	50 (40)	60 (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	

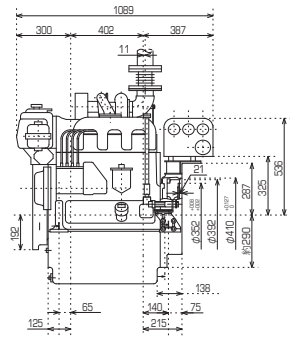
Dimensions Unit:mm

Engine only (4CHL-TN)

Front view



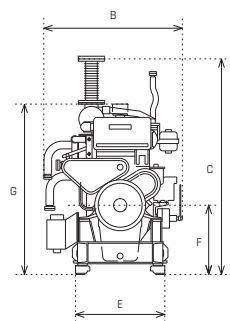
Left side view



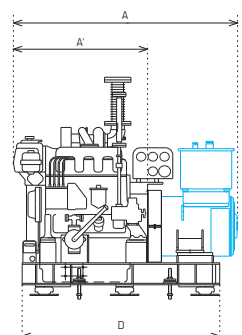
Generator set dimensions for your reference Unit:mm

Generator set dimensions shown below depend on generator model

Front view



Left side view



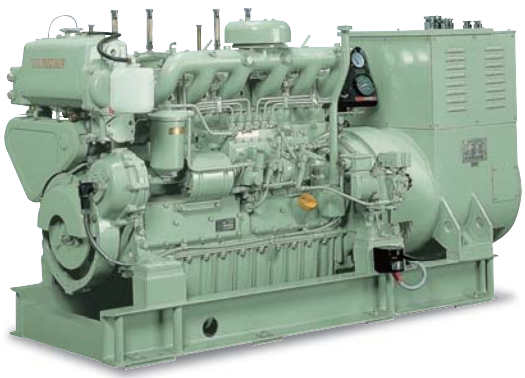
Model	A	A'	B	C	D	E	F	G
4CHL-N	1552	917	947	1351	1350	610	473	1164
4CHL-TN	1532	917	947	1173	1350	610	473	1164
4CHL-TNA	1572	917	947	1173	1420	610	473	1164

– Generator

MARINE AUXILIARY DIESEL ENGINE

6CHL series

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



- 6-cylinder, direct injection.
- Natural aspirated or turbocharged.

Specifications

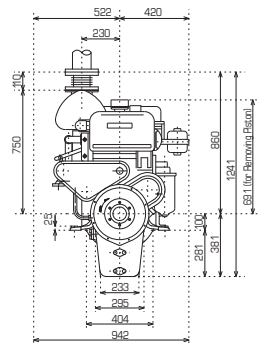
TNA is not Type approved by BV.
HTN(A) is not Type approved.

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 rpm	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		Exhauust Turbocharger				Exhauust Turbocharger with intercooler			
Dry weight (Engine only) kg	625		645		645		675		675	
Dry weight (Gen. set) kg	1220		1350		1350		1380		1540	

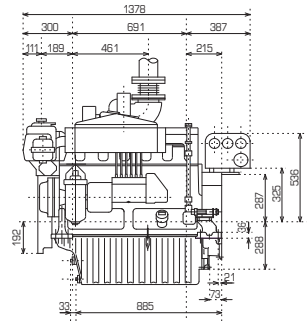
Dimensions Unit:mm

Engine only (6CHL-HTN)

Front view



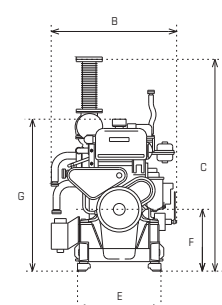
Left side view



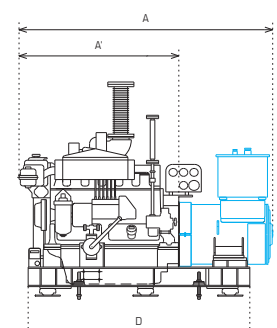
Generator set dimensions for your reference Unit:mm

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

MARINE AUXILIARY DIESEL ENGINE

4HAL2 series

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

- 4-cylinder, direct injection.
- 4HAL2-WT Conform to IMO Tier II emissions regulations.

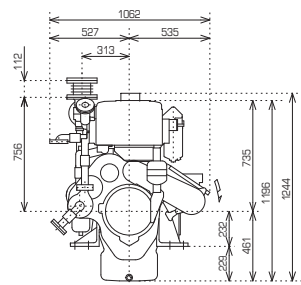
Specifications

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 (64)	100 (80)	130 (104)	100 (80)	125 (100)	150 (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					

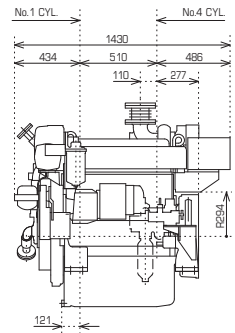
Dimensions Unit:mm

Engine only

Front view



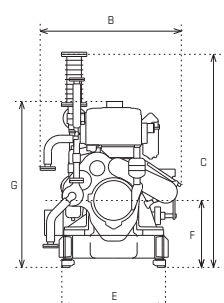
Left side view



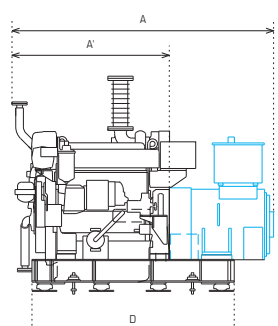
Generator set dimensions for your reference Unit:mm

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
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

MARINE AUXILIARY DIESEL ENGINE

6HAL2 series

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.

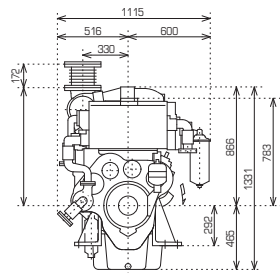
Specifications

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

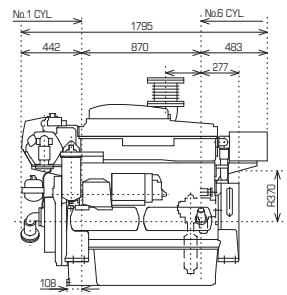
Dimensions Unit:mm

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

Front view



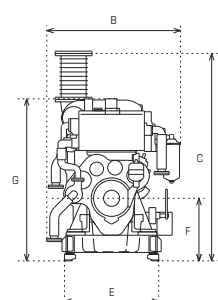
Left side view



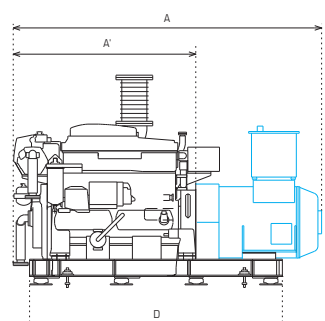
Generator set dimensions for your reference Unit:mm

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

MARINE AUXILIARY DIESEL ENGINE

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.

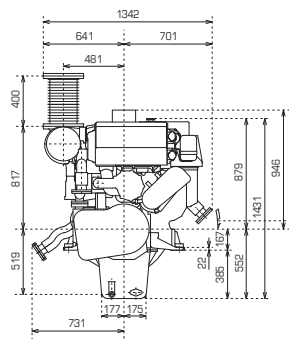
Specifications

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	

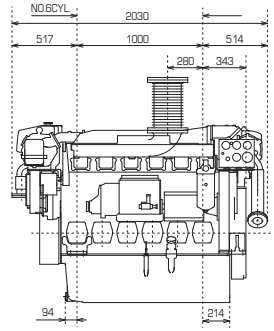
Dimensions Unit:mm

Engine only

Front view



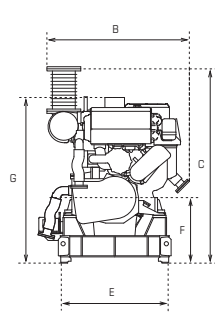
Left side view



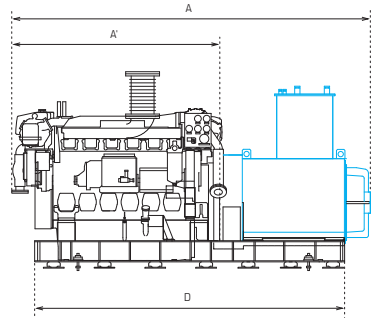
Generator set dimensions for your reference Unit:mm

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

Notes

Notes

Notes

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