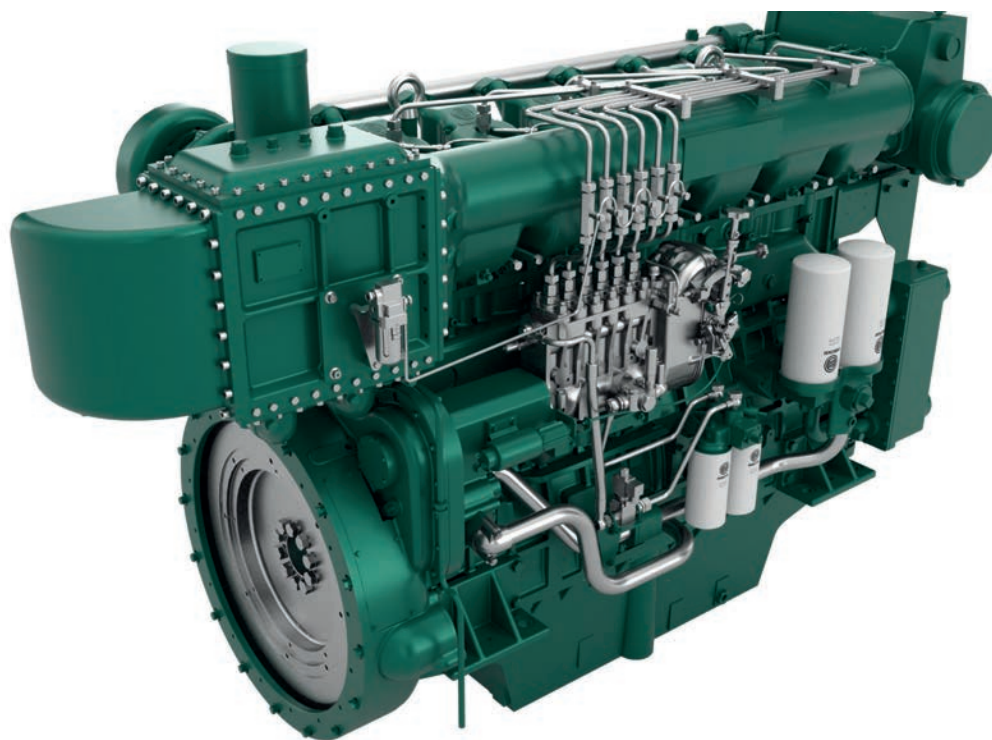


Marine Propulsion Engine

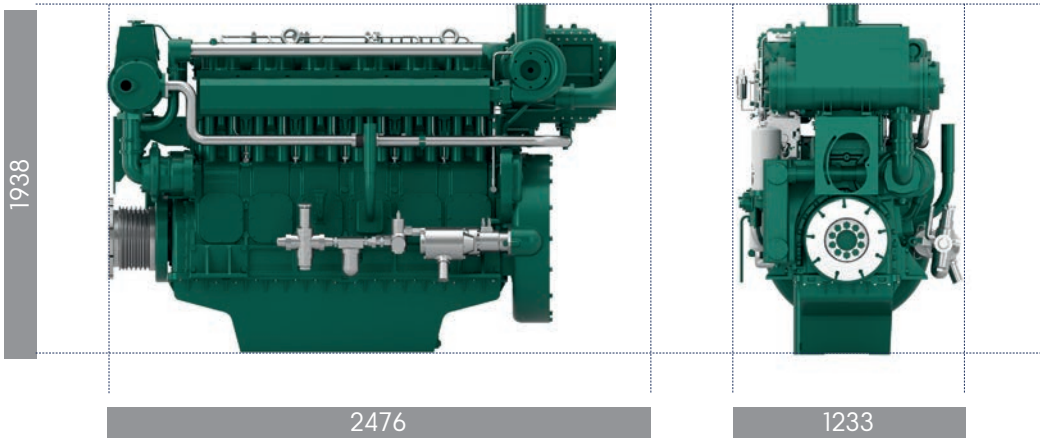


6170

Technical Data

Engine designation	X6170ZC450-2	X6170ZC540-2	X6170ZC580-3	X6170ZC620-4	X6170ZC818-5
Rated power (HP/kW)	450/330	540/397	580/426	620/456	818/601
Speed (rpm)	1200	1200	1350	1500	1500
Power class	P1				
Min. fuel consumption (g/kW.h)	195				
No. of cylinders	in-line 6				
Description	4-cycle, direct-injected, turbocharged diesel engine with air cooler				
Bore/Stroke, mm (in)	170/200(6.69/7.87)				
Displacement, L (in ³)	27.24(1661.9)				
Compression ratio	15:1				
Dry weight, kg (lb)	3100(6836)				
Emission compliance	IMO Tier II				
Firing order	1-5-3-6-2-4				
Idle speed (r/min)	500	500	550	600	600
Flywheel housing/Flywheel	SAE 0 [#] /14 [#] 16 [#] or 18 [#]				
Recommended fuel to conform to	ASTM-D975: 1-D / 2-D DIN51601 NATO CODES F54/F57/F76 GB252 0/-10/-20/-35/-50 BS2869: A1/A2 W-F-800C:DF-F-A,DF-1,DF-2				
Other engine models	X6170ZC300-1/X6170ZC350-1/X6170ZC408-1/X6170ZC480-2/X6170ZC520-2/X6170ZC450-1				

Engine Dimensions



Connections

Raw water inlet	Ø 120mm
Raw water outlet	Ø 120mm
Fuel inlet	Ø 18mm
Fuel outlet	Ø 14mm
Exhaust	Ø 208mm

Class Definition

Rating	Time at full load	Mean engine load factor	Annual working time	Cruising speed	Typical applications
P1 Continuous Duty	unlimited	80%-100%	5000h to 7000h	unlimited	Trawlers, Freighters, Dredgers, Ferries, Local carriers, Barges
P2 Heavy Duty	8h per 12h	30%-80%	3000h to 5000h	unlimited	Passenger boats, Harbour tug boats, Coasters, Tuna boats, Seiners, Oceanographic research vessels
P3 Intermittent Duty	2h per 12h	70%	1000h to 3000h	90%	Fishing crafts, Pilot boats, Commercial pleasure crafts, Fire fighting boats
P4 High Output Duty	1hr per 12h	60%	<1000h	80%	Patrol boats, Life boats
P5 Light Duty	1hr per 12h	<30%	<500h	80%	Leisure yachts

Power Definition

Standard ISO 3046/1 - 1995 (F)

Reference Conditions

Ambient temperature	25°C / 77°F
Barometric pressure	100 kPa
Relative humidity	30%
Raw water temperature	25°C / 77°F

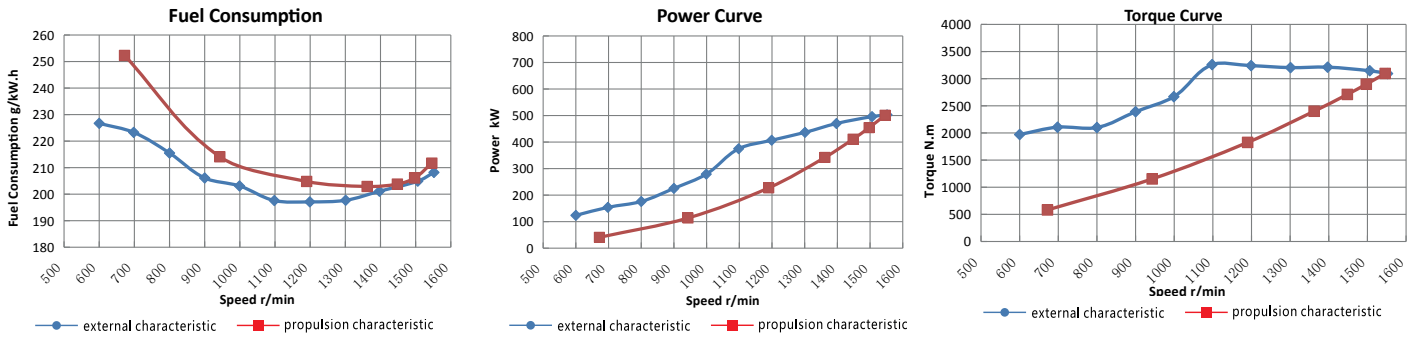
Fuel oil

Relative density	0,840 ± 0,005g/ml
Lower calorific power	42,700 kJ/kg
Consumption tolerance	0 ± 5%
Inlet limit temperature	35°C / 95°F

Our ratings also comply with classification societies maximum temperature definition without power derating.

Ambient temperature	45°C / 113°F
Raw water temperature	32°C / 90°F

Performance Curves (X6170ZC620-4)



Technical Description

Cylinder block

- Gantry cylinder block and spherical crankshaft box, light weight and high rigidity, structural optimization design gives more potential for internal combustion pressure increase

Crankshaft

- Nodular iron crankshaft has enhanced strength and good balance, 6 counterweights design to reduce the moment of inertia, ensure the responsiveness under any complex operating condition

Piston

- Internal lubricate oil gallery design, three piston rings and gap on the bottom to reduce oil consumption

Connecting rod

- Oblique incision structure, good rigidity, light weight and small moment of inertia which decrease mechanical load effectively and to increase the reliability

Heat exchanger

- High cooling efficiency and sensitive temperature control, the cooling core has multiple materials and could be disassembled solely, easy maintenance, can meets the requirements of inland and sea-going application

Centrifugal water pump

- Forced cooling, mass flow, high cooling efficiency, multiple material vanes

Electrical starter

- High-power pre-engaged electrical starter, double wire system, starts power reach up to 11kW

Air starter

- High-power pre-engaged air starter, output power reach up to 7-17kW, ensure the engine can start easily in various ambient condition

