

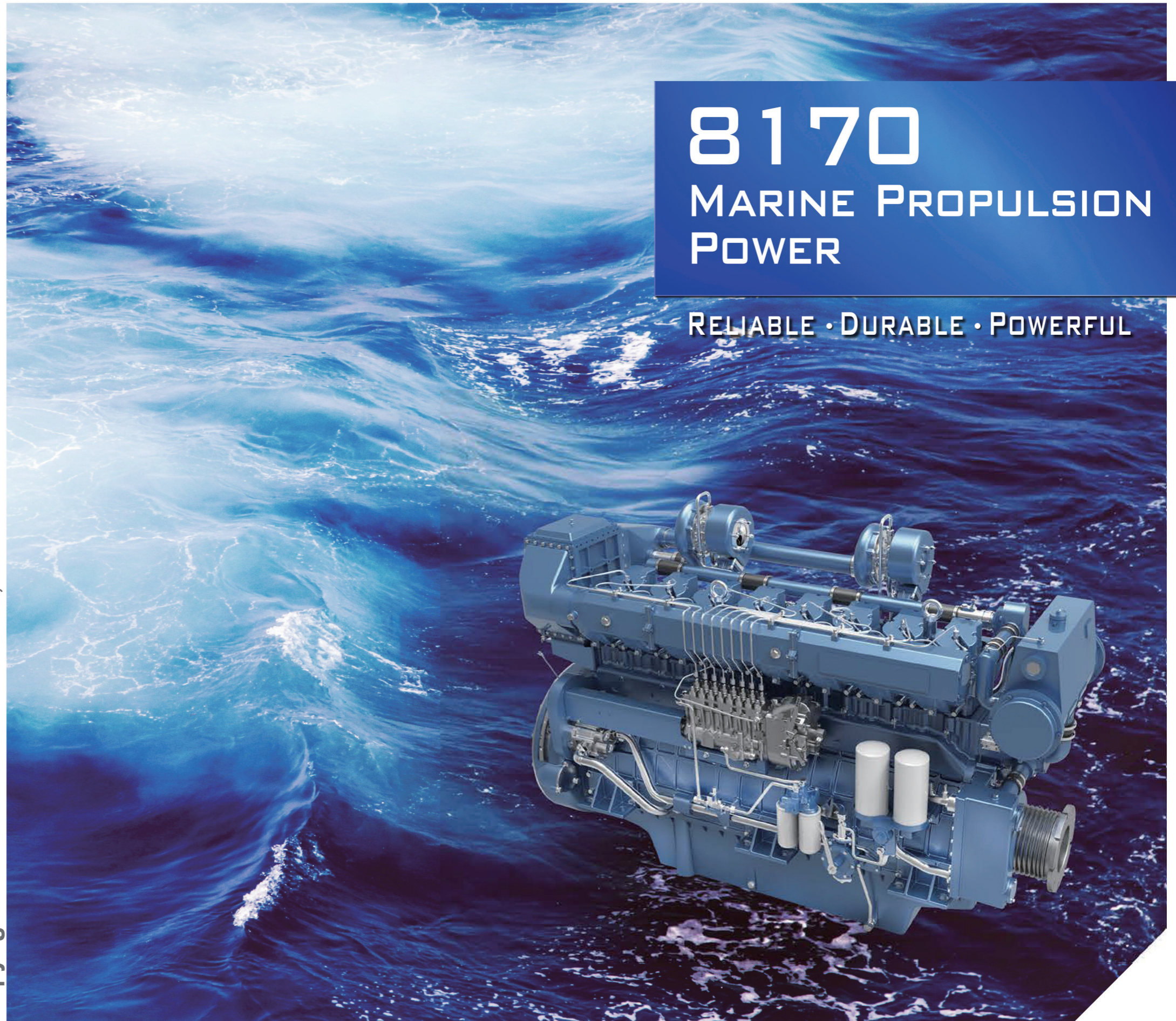
WEICHAI pursues an active policy of product development and improvement. For this reason the company reserves the right to change specifications without prior notice.

8170

MARINE PROPULSION POWER

RELIABLE · DURABLE · POWERFUL

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WEICHAI

Technical Data

Engine model	8170ZC720-2	8170ZC818-3	8170ZC900-3	8170ZC1000-5
Rated power, Ps(kW)	720(530)	818(601)	900(661)	1000(735)
Rated speed, r/min	1200	1350	1350	1500
Power rating	P1			
Min. fuel consumption, g/(kW·h)	195			
No. of cylinders	in-line 8			
Description	4-stroke, direct-injected, turbocharged diesel engine with charge air cooler			
Bore x Stroke, mm (in)	170 x 200(6.69 x 7.87)			
Displacement, L (in ³)	36.32(2215.9)			
Compression ratio	15.1:1			
Dry weight, kg (lb)	3800(8379)			
Emission	IMO Tier II			
Firing order	1-6-2-4-8-3-7-5			
Idle speed, r/min	500	550	550	600
Flywheel housing/Flywheel	SAE 0/14", 16" or 18"			
Other engine models	8170ZC600-1,8170ZC900-5			

Class Definition

Power Classification	Time at full load	Mean engine load factor	Annual working time	Typical applications
P1 Continuous Duty	Unlimited	70% ~ 100%	recommended but not limited to 5000h-8000h	Ocean vessel Engineering vessel
P2 Heavy Duty	8h per 12h	40% ~ 80%	recommended but not limited to 5000h	Ferries, High speed passengers boats, Trawlers, Inland waterway transport boats, Tugboat, offshore trade vessel, Purse seine vessel
P3 Intermittent Duty	4h per 12h	40% ~ 80%	recommended but not limited to 3000h	Offshore service boats, Seasonal cruise ship, Official vessels with high utilization rate
P4 Light Duty	2h per 8h	60%	recommended but not limited to 1000h	Fishery patrol ship, Maritime surveillance ship, Patrol boat, Life boat, Stormships used by local governments
P5 High Performance Duty	0.5h per 5h	60%	recommended but not limited to 500h	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

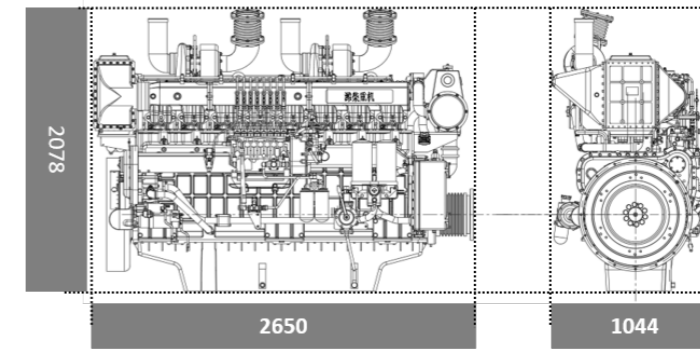
Fuel oil

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.

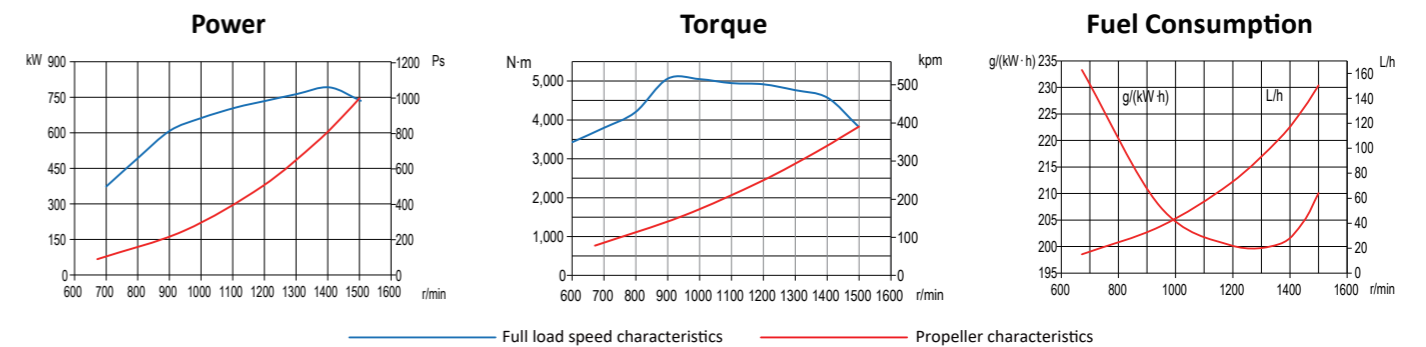
Ambient temperature 45 °C / 113 °F
 Raw water temperature 32 °C / 90 °F

Engine Dimensions



Dimensions may vary based on selected engine configuration

Performance Curves(8170ZC1000-5)



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.

