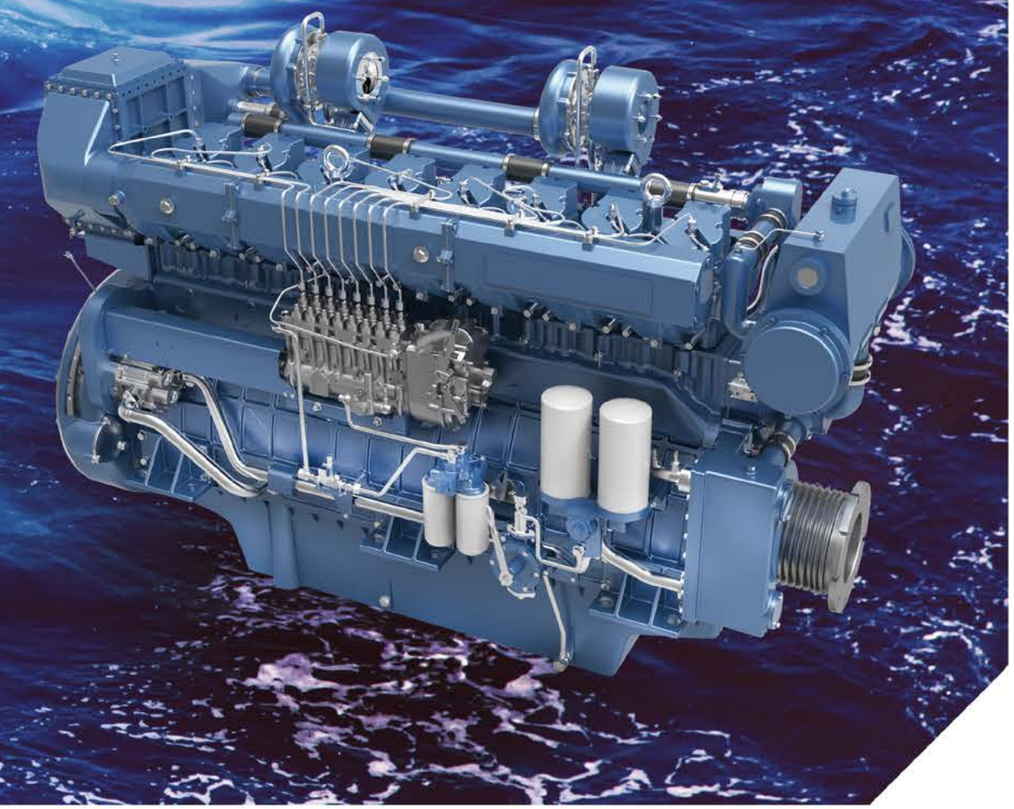
WEICHAI pursues an active policy of product development and improvement.For this reason the company reserves the right to change specifications without prior notice.

Contact your local dealer for more information regarding WEICHAI engine and optional equipment/accessories

Scan QR Code for Brochure

8170
Marine Propulsion Power

Reliable · Durable · Powerful



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WEICHAI

Technical Data

Engine designation	8170ZC720-2	8170ZC818-3	8170ZC1000-5
Rated power(HP/kW)	720/530	818/601	1000/735
Speed(rpm)	1200	1350	1500
Power class		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/Stroke, mm (in)		170/200(6.69/7.87)	
Displacement, L (in^3)		36.32(2215.9)	
Compression ratio		15:1	
Dry weight bobtail, kg (lb)		3800(8379)	
Emission compliance		IMO Tier II	
Firing order		1-6-2-4-8-3-7-5	
Idle speed(r/min)	500	550	600
Flywheel housing/Flywheel		SAE 0#/14#,16#or18#	
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（Under the circumstance of A2,pay attention to the sulphur content）； W-F-800C:DF-A,DF-1，DF-2	
Other engine models		8170ZC600–1	

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 carrier, Barge
P2	Heavy Duty	8h per 12h	30% ～ 80%	3000h to 5000h	unlimited	Passengers boats, Harbour tug boats, Coaster, Tuna boat ,Seiner, Oceanographic research vessels
P3	Intermittent Duty	2h per 12h	70%	1000h to 3000h	90%	Fishing crafts, Pilot boat，Commercial pleasure crafts，Fire fighting boat
P4	High Output Duty	1h per 12h	60%	＜ 1000h	80%	Patrol boat,Life boat
P5	Light Duty	1h per 12h	＜ 30%	＜ 500h	80%	Leisure yachts

Power Definition

Standard ISO 3046/1 - 1995 (F)

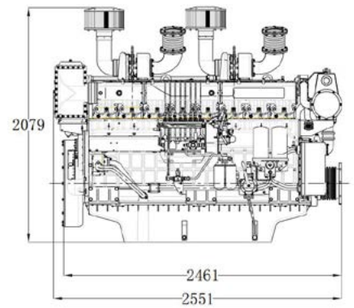
Reference conditions
Ambient temperature 25 °C / 77 °F
Barometric pressure 100 kPa
Relative humidity 30%
Raw water temperature 25 °C / 77 °F

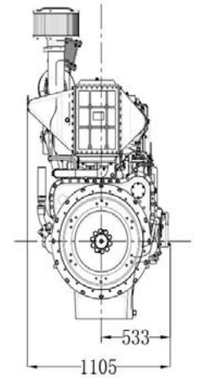
Fuel oil
Relative density 0,840 ± 0,005g/ml
Lower calorific power 42,700 kJ/kg
Consumption tolerance 0 ± 5%
Inlet limit temperature 35 °C / 95 °F

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

Engine Dimensions

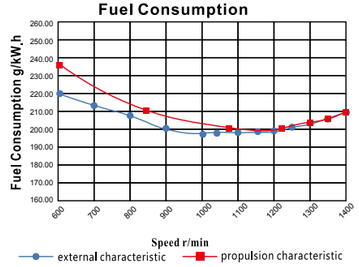


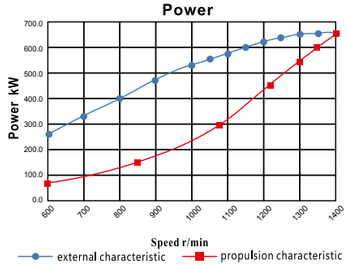


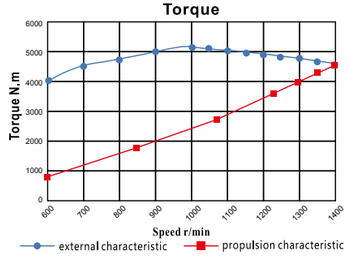
Connections

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

Performance Curces (8170ZC818-3)







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.