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

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8WH20

Marine Propulsion Power

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Technical Data

Engine model	8WH20LC2000-1	8WH20LC2176-1	8WH20LC2400-1
Rated power, Ps(kW)	2000(1470)	2176(1600)	2400(1765)
Rated speed, r/min	1000		
Power rating	P1		
Min. fuel consumption, g/(kW·h)	185		
No. of cylinders	In-line 8		
Description	4-stroke, direct-injected, turbocharged diesel engine with air cooler		
Bore x Stroke, mm (in)	200 x 300 (7.87 x 11.81)		
Displacement, L (in^3)	74.39(4539.6)		
Compression ratio	15:1		
Dry weight, kg (lb)	11800(26015)		
Emission	IMO Tier II		
Firing order	1-3-7-4-8-6-2-5		
Idle speed, r/min	400		
Flywheel size, mm	Ø 635		
Other engine models	8WH20LC1650-7.5, 8WH20LC2040-9		

Class Definition

Power Classification	Typical Conditions of Usage	Typical applications
P1 Continuous Duty	1.Typical annual usage is recommended but not limited to 5000h~8000h; 2.Full power can be used without interrupt; 3.Average load: 70%~100% of rated power; 4.The operating state in common use:Uninterrupted continuous full load use.	Ocean vessel，Engineering vehicle
P2 Heavy Duty	1.Typical annual usage is recommended but not limited to 5000h; 2.Full power could be utilized max 8h per 12h; 3.Average load: 40%~80% of rated power; 4.The operating state in common use:Continuous variable load，common use operating state is high load in high speed and middle speed.	Ferries，High speed，Passengers boats，Trawlers，Inland waterway transport boats，Tugboat，Offshore trade vessel，Purse seine vessel
P3 Intermittent Duty	1.Typical annual usage is recommended but not limited to 3000h; 2.Full power could be utilized max 4h per 12h; 3.Average load: 40%~80% of rated power; 4.The operating state in common use:high load in high speed and variable load in low speed.	Offshore service boats，Seasonal cruise ship，Official vessels with high utilization rate
P4 Light Duty	1.Typical annual usage is recommended but not limited to 1000h; 2.Full power could be utilized max 2h per 8h; 3.Average load: 60% of rated power; 4.The operating state in common use:high load in high speed and low load in low speed,Have higher requirement to acceleration.	Fishery patrol ship，Maritime surveillance ship，Patrol boat，Life boat，Stormships used by local governments
P5 High Performance Duty	1.Typical annual usage is recommended but not limited to 500h; 2.Full power could be utilized max 0.5h per 5h; 3.Average load: 60%of rated power; 4.The operating state in common use:high load in high speed，Have higher requirement to acceleration.	Leisure yachts

Power Definition

Standard ISO 3046-1

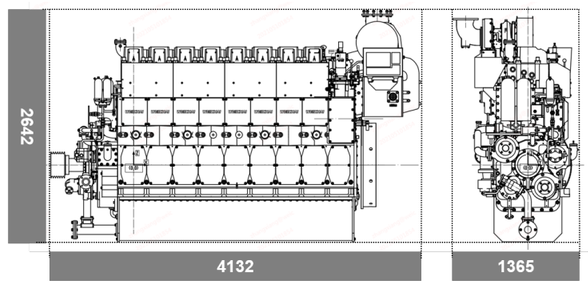
Reference conditions
Ambient temperature 25 °C / 77 °F
Barometric pressure 100 kPa
Relative humidity 30%
Raw water temperature 25 °C / 77 °F

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.

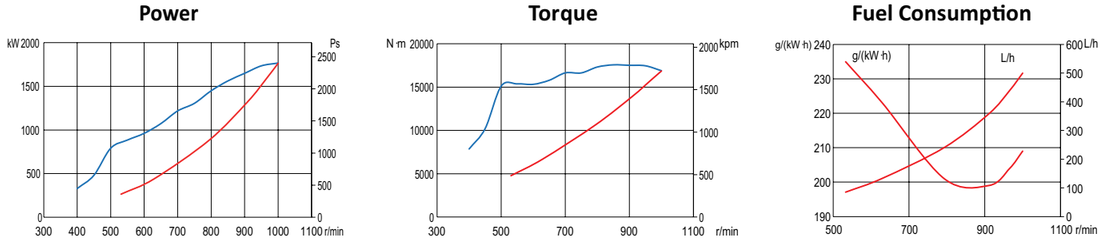
Ambient temperature 45 °C / 113 °F
Raw water temperature 32 °C / 90 °F

Engine Dimensions



Dimensions may vary based on selected engine configuration

Performance Curves(8WH20LC2400-1)



Technical Description

Cylinder block
• Engine block casted by RuT400 has an enhanced stiffness and lower weight by using proper strengthening ribs and a concise and beautiful appearance by integrating oil and coolant passages and air pressure stabilizing cavity inside.

Crankshaft
• Unitary and all balanced crankshaft using high strength alloy steel and made by fiber forging process ensures the power output and long term running.

Piston
• Piston of steel head and iron skirt can sustain up to 22 Mpa burning pressure. A specially designed molded lines of piston head makes the burning more sufficient.

Connecting rod
• Connecting rod structure of three-part alloy reduces the lift height and brings convenient maintenance.

Cylinder head
• 4 valves on each cylinder enlarge intake and exhaust flowing area. Coolant passages of double-level design, of which coolant direction and passages diameter are calculated and analyzed by CFD to make directions and flow speed more reasonable, have a better heat exchanging performance.

Intake & Exhaust system
• A KBB HPR4000 turbocharger with compression ratio of 5.5 brings a better performance in low load condition besides of higher power output, lower fuel consumption and emission by the good match with engine and the specially designed air passages.

Lubrication system
• The centrifugal oil filter cleans the oil through the whole running time to effectively extend the oil change interval and keep a good lubrication. The electrical pre-supply oil pump mounted on the engine block ensures a reliable lubrication before start and after stop.