CW6200ZC Marine propulsion engine

WEICHAI

Basic engine specifications

Rating	P1
Rated power-kW	600
Rated speed-rpm	1000
Overload power-kW	660
Overload speed-rpm	1032
Rated power tolerance-%	3
Low idle speed-rpm	400
High idle speed-rpm	1050
Nº of Cylinders / Valves	6/24
Cylinders arrangement	In-line
Thermodynamic cycle	4 stroke
Bore × Stroke-mm(in)	200×270 (7.87×10.63)
Compression ratio	13.37：1
Displacement-L(in^3)	50.89 (3105.5)
Fuel system	Mechanical
Injection system	Direct injection
Aspiration	Turbocharged and aftercooled
N° of teeth on flywheel ring gear	252
Firing order	1-4-2-6-3-5
Rotation(from flywheel end)	Clockwise
Overall dimensions(L×W×H)-mm(in)	2820×1465×2488 (111×58×98)
Dry weight-kg(lb)	6500 (14330)
Max. output power of front end-kW(Ps)	300 (408)
Max. output torque of front end-N·m(ft-lbs)	2865 (1891)
Emission compliance	IMO Tier II

Rating definitions

Continuous Duty (P1)

The engine can run at full load continuously. The average load factor is 70% to 100%. Annual working time is recommended but not limited to 5000h～8000h.

Heavy Duty (P2)

The engine can run at full load for 8h every 12h. The average load factor is 40% to 80%. Annual working time is recommended but not limited to 5000h.

Intermittent Duty (P3)

The engine can run at full load for 4h every 12h. The average load factor is 40% to 80%. Annual working time is recommended but not limited to 3000h

Light Duty (P4)

The engine can run at full load for 2h every 8h. The average load factor is about 60%. Annual working time is recommended but not limited to 1000h.

High Performance Duty (P5)

The engine can run at full load for 0.5h every 5h. The average load factor is about 60%. Annual working time is recommended but not limited to 500h.

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Air intake system

Intake air flow-m^3/min(cfm)	63.50 (2267.71)
Max. allowable intake air restriction-kPa(in H_2O)	2.5 (10)
Intake air temperature up to-°C(°F)	60 (140)

Cooling system

Max. sea water strainer mesh hole diameter-mm(in)	2 (0.08)
Sea water pump flow-m^3/h(gal/min)	36 (159)
Head of sea water pump-m(ft)	36 (118)
Coolant capacity of the engine-L(gal)	75 (16.5)
Fresh water pump flow-m^3/h(gal/min)	36 (132)
Head of fresh water pump-m(ft)	36 (118)
Min. pressure at fresh water pump inlet-kPa(in H_2O)	20 (80)
Temperature range of thermostat-°C(°F)	70～80 (158~176)
Heat dissipating of cooling system-kW(BTU/min)	390 (22179)

Exhaust system

Exhaust flow-kg/h(lb/h)	5046 (11124)
Max. exhaust back pressure-kPa(in H_2O)	2.5 (10)
Max. exhaust temperature before turbocharger-°C(°F)	600 (1112)
Exhaust smoke-FSN	≤1.0

Lubricating system

Max. install angle(fore-aft)	5°
Max. install angle(athwart ship)	15°
Max. operating angle(fore-aft)	7.5°
Max. operating angle(athwart ship)	22.5°
Sump type	Wet
Oil capacity Low/High-L(gal)	103/141 (22.6/31.02)
Oil consumption–g/kW·h	1.0
Oil flow-L/min(gal/min)	455 (100.1)

Fuel system

Fuel flow supply line-L/h(gal/h)	500 (110)
Fuel flow return line-L/h(gal/h)	359 (93)
Min. Allowable fuel pressure of engine inlet-kPa(in H_2O)	100 (402)
Max. fuel return restriction-kPa(in H_2O)	34 (137)
Max. fuel inlet temperature-°C(°F)	45 (113)

Starting system

Electrical system voltage(2-pole)-V	24
Electric starter power-kW(Ps)	31 (42)
Recommended battery capacity(5°C and above)-A.h	450
Recommended battery capacity(-5°C and above)-A.h	500
Air starter power-kW(Ps)	35 (46.9)
Min. pressure of air starter-MPa	1
Air consumed per start-Nm^3	500

Security parameters

Alarm speed-rpm	825
Shut down speed-rpm	863
Alarm oil pressure-MPa	0.2
Shut down oil pressure-MPa	0.15
Alarm oil temperature-°C(°F)	78(172)
Alarm coolant temperature-°C(°F)	88(190)

Noise

Noise(LwA)-dB(A)	110

General remarks

- The origin of coordinates is at the center of the flywheel housing back end surface. X axis directs from flywheel to front, Z axis directs vertical up, Y axis direction is defined by right-hand rule.
- All ratings are based on operating conditions under ISO 8665, ISO 3046-1.
- Curves represent net engine performance in accordance with ISO 3046/1 with standard accessories such as fuel injection pump, water pump and L.O. pump under the condition of 25°C/77°F ambient temperature, 100kPa[29.612 in Hg] barometric pressure, 30% relative humidity and 25°C/77°F raw water temperature at inlet.