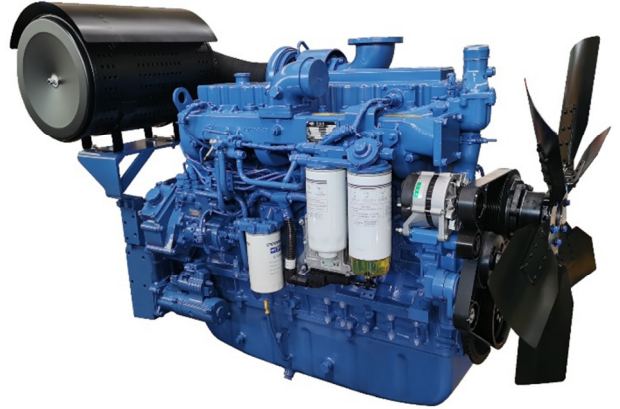


YC6MJ540-D30

Prime power: 365 kW @ 1500 r/min
Standby power: 402 kW @ 1500 r/min



Definition

Prime Power

It corresponds to the prime power (PRP) defined in GB/T 2820 and ISO 8528. Prime power (PRP) is the maximum power which an engine is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year with the maintenance intervals and procedures being carried out as prescribed by Yuchai. The permissible average output power over 24h of operation shall not exceed 70% of PRP.

Standby Power

It corresponds to the emergency standby power (ESP) defined in GB/T 2820 and ISO 8528. Emergency standby power (ESP) is the maximum power available during a variable electrical power sequence, for which an engine is capable of delivering in the event of a utility power outage or under test conditions for up to 200h of operation per year with the maintenance intervals and procedures being carried out as prescribed by Yuchai. The permissible average output power over 24h of operation shall not exceed 70% of ESP.

Main technical parameters

Number of cylinders: 6
 Configuration: vertical, in-line
 Induction system: turbocharged & intercooled
 Combustion system: direct injection
 Compression ratio: 14:1
 Bore: 131 mm
 Piston stroke: 145 mm
 Displacement: 11.73 L
 Rotation: anticlockwise (viewed from flywheel)
 Firing order (cylinder 1 further from flywheel): 1-5-3-6-2-4
 Dry weight (without radiator): 1050 kg
 Gross weight (without radiator): 1100 kg

Dimension (L*W*H)

Length (from the front end of the radiator to the rear end of the air filter): 2146 mm
 Width: 1125 mm
 Height (including radiator and mounting support): 1450 mm

Center of gravity (dry engine, with the center of rear face of flywheel housing as origin)

Forward of rear face of flywheel housing: 586 mm
 Above crankshaft center line: 181 mm

Offset RHS of center line from the crankshaft center line: 23 mm

Rotational inertia of shafting

Engine: 3.02 kg·m²
 Flywheel: 2.35 kg·m²

Performance level

Speed drop: ≤3%
 Speed fluctuation rate: ≤0.5%
 Speed governing mode: electronic

Test conditions

Ambient temperature: 25°C
 Atmospheric pressure: 100 kPa
 Relative humidity: 30%
 Intake resistance under maximum working condition: ≤5 kPa
 Exhaust back pressure limit: ≤10 kPa
 Fuel temperature (feed pump): 38±2°C

Note: Unless otherwise specified, the data in this parameter list are measured under test conditions. If the engine operates under test conditions other than those described above, appropriate adjustments shall be made according to the actual environment. For details, please contact the technical service department of Yuchai

Supporting Parameter List of YC6MJ540-D30 G-drive Diesel Engine (Basic Type)
Supporting parameters

Item	Unit	Supporting Parameters	
		Standby	Prime
		50 Hz @ 1500 r/min	
Total engine power	kW	402	365
Net engine power	kW	387	351
Fan power consumption	kW	14	14
Other power losses	kW	0	0
Mean effective pressure	MPa	2.74	2.49
Air intake flow	m ³ /min	22.0	21.0
Exhaust temperature limit (post-turbo)	°C	550	550
Exhaust flow	m ³ /min	55.1	51.6
Turbocharged pressure ratio		3.8	3.2
Thermal efficiency	%	41.6	41.9
Mean movement speed of piston	m/s	7.25	7.25
Coolant flow	L/min	400	400
Fan air volume (at the static pressure of 640 kPa)	m ³ /min	650	650
Adaptive genset power (power factor: 0.8)	kW	360	320
	kVA	450	400
Assumed generator efficiency	%	93.0	91.1

Heat balance

Note: The calorific value of fuel is 42,770 kJ/kg

Item	Unit	Supporting Parameters	
		Standby	Prime
		50 Hz @ 1500 r/min	
Total chemical energy of fuel	kW	967	872
Output power (total)	kW	402	365
Output power (net)	kW	387	351
Fan power consumption	kW	14	14
Other power losses	kW	0	0
Heat dissipation of coolant	kW	187	176
Heat dissipation of intake intercooler	kW	99	90
Exhaust heat dissipation	kW	249	213
Heat dissipation through heat radiation	kW	30	28

The values below are the heat dissipation of MJLE0-1316100A radiator at the ambient temperature of 50°C.

Item	Unit	Supporting Parameters	
		Standby	Prime
		50 Hz @ 1500 r/min	
Total chemical energy of fuel	kW	1007	894
Output power (total)	kW	402	365
Output power (net)	kW	387	351
Fan power consumption	kW	14	14
Other power losses	kW	0	0
Heat dissipation of coolant	kW	189	178
Heat dissipation of intake intercooler	kW	99	91
Exhaust heat dissipation	kW	286	230
Heat dissipation through heat radiation	kW	31	30

Cooling system

Total coolant capacity: 85.4 L
 Coolant capacity of engine: 18 L
 Coolant capacity of radiator: 63.4 L
 Coolant capacity of pipeline: 4 L
 Maximum coolant outlet temperature of engine: 99°C
 Thermostat working temperature: initial opening temperature:
 (80±2)°C; full opening temperature: ≤90°C
 Maximum water temperature rise:
 -standby power 8.5°C
 -prime power 8°C

Radiator

Cooling area: 168 m²
 Dry weight: 288 kg
 Material: aluminum
 Number of rows: 115
 Core density: 14 fins per inch
 Core width: 1,116 mm
 Core height: 1,140 mm
 Minimum pressure of pressure cap: (50±5) kPa
 Resistance limit: 30 kPa

Intercooler

Cooling area: 82 m²
 Material: aluminum
 Number of rows: 50
 Core density: 12 fins per inch
 Core width: 1,062 mm
 Core height: 1,100 mm
 Resistance limit: <12.5 kPa

Water pump

Speed: 2,893 r/min
 Drive mode: belt drive

Fan

Diameter: 914 mm
 Transmission ratio: 1.04:1
 Material: iron sheet
 Number of blades: 6
 Air blast/suction: air blast

Air intake system

Air filter

Maximum intake resistance:
 Clean air filter: 3.5 kPa
 Dirty air filter: 5 kPa
 Alarm value: 6.2 kPa
 Air filter type: dry type paper filter element

Inclination angle

Transverse/longitudinal inclination (oil volume of oil pan: 30 L):
 10°/10°

Fuel system

Fuel injection system: electronically controlled high-pressure
 common rail type

Fuel injector

Type: electronically controlled injector with multiple jets
 Starting pressure of fuel injector: electronically controlled

Fuel pump

Drive type: gear drive
 Fuel delivery pump flow @ 1,500 rpm: 4.1 L/min
 Maximum fuel inlet temperature limit: 70°C
 Permissible inlet pressure (absolute pressure) at the front end of fuel
 delivery pump: (-100 ~ 150) kPa
 Maximum fuel return pressure of fuel pump: 20 kPa

Fuel filter

Primary filter

Rated flow: 7 L/min
 Maximum original resistance: 12 kPa
 Water separation efficiency at rated flow: ≥95%
 Filter efficiency:
 at 25 μm 99%
 at 10 μm 85%

Secondary filter

Rated flow: 7 L/min
 Maximum original resistance: 10 kPa
 Filter efficiency:
 at 14 μm 99.99%
 at 6 μm 99.9%
 at 4 μm 99.6%

Fuel consumption

Note: The fuel density is 0.835 kg/L.

Working condition	1500 r/min	
	g/(kW·h)	L/h
Standby	202.6	97.5
Prime	201.1	87.9
75%	205.5	67.4
50%	206.3	45.0

Lubrication system

Total oil capacity (dry engine):.....37 L
 Total oil capacity (oil change):.....35 L
 Low/high level of oil capacity of oil pan:..... 28/35L
 Maximum oil temperature (oil pan):.....120℃
 Maximum oil temperature (oil pan):..... (90~115)℃
 Idle oil pressure:.....≥120 kPa
 Oil pressure at rated speed:..... (300~600) kPa
 Oil-fuel ratio:.....<0.1%

Oil filter

Filter efficiency under rated flow of 60 L/min and original resistance of assembly of ≤25 kPa:
 15 μm ≤ particle size < 20 μm.....>75%
 20 μm ≤ particle size < 30 μm.....>95%
 30 μm ≤ particle size < 40 μm.....>99%
 particle size ≥ 40 μm.....>99.9999%

Electrical system

Type:.....negative grounded

Charger (24V)

Voltage:.....28 V
 Output current:.....55 A

Starter (24V)

Type:.....electronic, 1
 Voltage:.....24 V
 Power:.....9kW
 Teeth number of flywheel:.....119
 Teeth number of starter:.....11

Cold start (test data, for reference only)

24V					
Battery specification × quantity 12V/200 Ah × 2					
Starting temperature	℃	Normal temperature	-15	-25	-30
Starting speed	r/min	183	142	101	86
Starting current	A	203	374	421	504
Starting voltage	V	21.8	21.4	18.9	16.9
Starting time	s	1.3	7.2	2.1	4.5
Warm-up time	s	0	0	40	50

Intake auxiliary heating device

Type:.....grille
 Specification:.....2.2 kW

Coolant preheater

Recommended specification:.....3 kW/220 V
 Engine preheater outlet connector:..... NPT 1/2
 Engine preheater inlet connector:..... M14×1.5

Oil heater

Recommended specification:.....300 W/220 V
 Connector (oil pan, 1 Nr.):..... M22×1.5

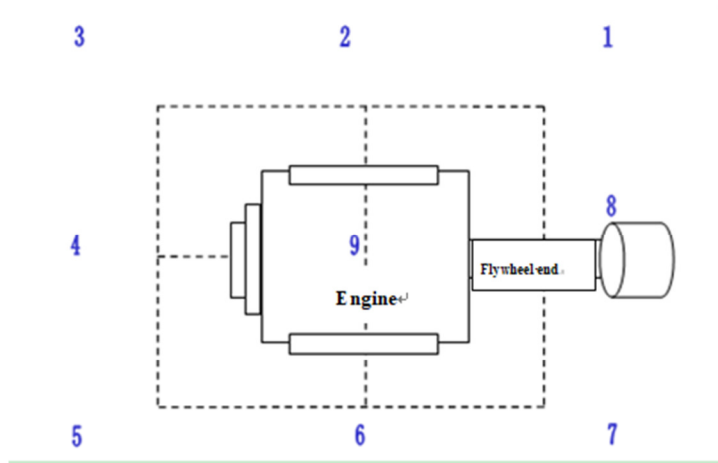
Exhaust system

Maximum exhaust back pressure:.....10 kPa
 Inner diameter of exhaust port:..... φ125 mm

Noise

Noise data (365 kW @ 1500 r/min)

Position	Sound pressure level Lp, dB(A)
1	92.3
2	99.7
3	94.4
4	94.1
5	91.3
6	95.7
7	92.4
8	94.2
9	96.5



Noise spectrum (365 kW @ 1500 r/min)

Frequency, Hz	Noise, dB(A)
63	53.7
125	61.5
250	67.4
500	79.6
1K	87.4
2K	86.2
4K	83.1
8K	77.8
16K	75.4

