

# FUJIAN EPOS ELECTRIC MACHINERY CO., LTD

**EMEAN**  
POWER

**WEICHAI**  
潍柴

ENGINE MODEL: WP2.3D48E200

EMEAN POWER


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WECHAT



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<b>转速 Speed</b> <b>r/min</b>	<b>发动机功率</b> <b>Gross Engine Output</b>		
	持续功率 kW COP kW	常用功率 kW PRP kW	备用功率 kW ESP kW
1500	/	44	48

### 功率定义解释 Ratings definitions:

功率分类 Ratings Definitions	运行条件 Operating condition
持续功率 COP	1、每年运行时间不限; Unlimited using time per year; 2、在恒定的 100%负荷下运行; Continuous power is the maximum power available at a constant load factor; 3、不具备超负荷能力。 No overload capability is allowed.
常用功率 PRP	1、每年运行时间不限; Unlimited using time per year; 2、运行24h上平均负荷率不能超过70%; The average load rate is no more than 70% over 24 hours; 3、每 12h 内, 可超负荷 10%运行 1h。 Overloading 10% for 1h within 12 hours of operation is allowed.
备用功率 ESP	1、每年运行时间不超过200h; The annual operating time shall not exceed 200h; 2、运行24h以上, 平均负荷率不超过70%; The average load rate shall not exceed 70% over 24h operation cycle; 3、不具备超负荷能力; No overload capability is allowed; 4、柴油机启动加速按照 Q/WCG136.13 进行, 没有热机过程, 由启动加速到标定转速需在 10s 内完成。自然吸气柴油机, 环境温度在 5°C 以下时, 需增加预热设施保证柴油机出水温度在 30°C 以上; 环境温度 5°C 以上时, 无需预热设施。增压柴油机环境温度 10°C 以下时, 需增加预热设施保证柴油机出水温度在 30°C 以上; 环境温度 10°C 以上


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	<p>时, 无预热设施。</p> <p>The acceleration of starting of diesel engines are carried out in accordance with Q/WCG136.13, and there' s no engine process. From acceleration of starting to calibration speed shall be completed within 10s. Natural aspirated diesel engine, when the environment temperature is below 5°C, need to increase preheat facilities to ensure that diesel engine water temperature above 30°C. When environment temperature over 5°C, no preheating facilities are required.</p> <p>Supercharged diesel engine, when the environment temperature is below 10°C, need to increase preheat facilities to ensure that diesel engine water temperature above 30°C. When environment temperature over 10°C, no preheating facilities are required.</p>
限时使用功率 LTP	<p>1、不具备超负荷功率; No ability to overload;</p> <p>2、恒定负荷条件下, 运行时间每年不超过 500h。 The annual operating time shall not exceed 500h while supplying a variable electrical load.</p>
数据中心功率 DCP	<p>1、具有 10%超负荷能力; It has 10% overload capacity;</p> <p>2、每年运行时间不限; Annual run time is unlimited;</p> <p>3、在≤100%的可变或持续负荷下工作; Working under variable or continuous load of less than 100%;</p> <p>4、当设备持续运行时, 功率负荷不大于标定功率的 70%。 The power load shall not exceed 70% of the calibration power when the device is running continuously.</p>

备注 Descriptions	<p>1) 所有功率基于标准 ISO 8528-1, ISO 3046, DIN6271, 误差范围± 5%。 All ratings are based on operating conditions under ISO 8528-1, ISO 3046, DIN6271. Performance tolerance of ±5%.</p> <p>2) 测试条件: 大气压力 100kPa, 25°C, 相对湿度 30%, 燃油密度 0.84kg/L; 其他环境条件下可能需要进行功率修正, 详情请与厂家联系。 Test conditions : 100 kPa, 25°C air inlet temperature, relative humidity of 30%, with fuel density 0.84 kg/L. Derating may be required for conditions outside these; please contact the factory for details.</p> <p>3) 所有的数据均基于发动机带燃油系统、水泵、机油泵时获得的, 而不带有交流发电机、风扇、其它选用设备和被驱动的附件。 Power output curves are based on the engine operating with fuel system, water pump and lubricating oil pump, without battery charging alternator, fan and optional equipment.</p>
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### 基础数据 Essential Data

发动机类型 Engine Type	柴油机 Diesel Engine
气缸/气门数量 N° of Cylinders / Valves	4 / 8
气缸分布型式 Cylinders arrangement	L 型 L-Type
缸径×行程 (mm) Bore x Stroke (mm)	89×92
排量(L) Displacement(L)	2.3
燃油系统型式 Fuel System	机械泵 mechanical pump
进气形式 Aspiration	增压中冷 Turbocharging and intercooling
压缩比 Compression ratio	17.5
飞轮壳尺寸 Flywheel housing	SAE4
飞轮尺寸 Flywheel	7.5"
飞轮齿圈齿数 N° of teeth on flywheel ring gear	104
飞轮转动惯量 (kg/m <sup>2</sup> ) Inertia of flywheel (kg/m <sup>2</sup> )	0.26
曲轴转动惯量 (kg/m <sup>2</sup> ) Inertia of crankshaft (kg/m <sup>2</sup> )	0.0292
排放阶段 Emission standard	无排放 Non
发动机尺寸(长×宽×高) Overall Dimensions without radiator (L x W x H) (mm)	854×620×678 (以外形图为准 The outer chart shall prevail)
发动机干重 (kg) Engine dry weight (kg)	235
不带辅助启动装置时最低冷启动温度 (°C) Min.cold start temperature without auxiliary starting device(°C)	-5

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带辅助启动装置时最低冷启动温度 (°C) Min. cold start temperature with auxiliary starting device (°C)	-15
包装尺寸(长×宽×高) Packing size (L x W x H) (mm)	1000×800×1000
运输重量 Packaging quality(kg)	260

## 进气系统 Air intake system

在涡轮增压器前允许的最大的进气温升(°C) Air intake temperature rise (°C)	/
清洁滤芯进气阻力 (kPa) Air intake restriction clean filter (kPa)	≤3.5
脏滤芯进气阻力 (kPa) Air intake restriction dirty filter (kPa)	≤6
额定工况下进气流量 (kg/h) Recommended air flow @ PRP (kg/h)	200
应急备用工况下进气流量 (kg/h) Recommended air flow @ ESP (kg/h)	209
推荐最小进气管直径(mm) Min. diameter of intake pipe (mm)	50

## 中冷系统 Intercooling system


25°C环境温度下的最高进气温度 (°C) Max. intake temperature @ 25°C ambient temperature (°C)	55
进气温度与环境温度的最大温差 (°C) Max. difference between intake temperature and ambient temperature (°C)	≤30
中冷器允许的最大压力降 (kPa) Max. intake pressure drop of intercooler (kPa)	8

## 冷却系统 Cooling system

发动机允许的最高使用环境温度 (°C) System designed for ambient temperature up to (°C)	40
进出水外部管路的最小内径 (mm) Min. inside diameter of coolant outlet pipe (mm)	进水 (inlet) 30, 出水 (outlet) 32
出水管报警温度 (°C) Coolant alarm temperature (°C)	98±2
节温器初开/全开温度 (°C) Thermostat opening temperature/full open temperature (°C)	72/82(高温循环 High temperature cycle)
冷却系统内最小保持压力 (kPa) Min. pressure in cooling system (kPa)	15
发动机本身冷却液容量 (L) Coolant capacity of the engine (L)	5(高温循环 High temperature cycle)

## 排气系统 Exhaust system

允许最大排气背压 (kPa) Max. exhaust back pressure (kPa)	8
最大的排气温度 (涡轮前) (°C) Max. exhaust temperature before turbocharger (°C)	650
最大的排气温度 (涡轮后) (°C) Max. exhaust temperature after turbocharger(°C)	650

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额定工况下排气流量 (kg/h) Exhaust flow @ PRP (kg/h) .....	209
应急备用工况下排气流量 (kg/h) Exhaust flow @ ESP (kg/h) .....	219
推荐排气管最小直径(mm) Min. diameter of exhaust pipe (mm) .....	50
涡轮增压器法兰处允许的最大弯矩(Nm) Max. bending moment of exhaust gas exit flange (Nm) .....	/

## 润滑系统 Lubrication system

油底壳机油最小/最大容量 (L) Oil capacity Low / High (L).....	5.3/8
怠速时机油压力 (kPa) Oil pressure in normal condition idle speed (kPa) .....	≥100
在额定转速下的机油压力 (kPa) Oil pressure in normal condition at rated speed .....	200~500
机油压力低报警值(kPa) Lowest oil pressure alarm value (kPa) .....	80
机油压力低停机值(kPa) Lowest oil pressure shutdown value (kPa).....	/
额定工况主油道内机油温度范围 The oil temperature range of the main oil passage under rated working condition (°C) .....	85 ~ 115
机油流量 (L/min) Oil flow (L/min) .....	22
额定工况机油燃油消耗比 Oil fuel consumption ratio based on engine fuel consumption data under rated working condition .....	≤0.4%

## 噪声 Noise


发动机噪声 (声功率级) (dB(A)) Diesel engine noise (Acoustic power level) (dB(A)) .....	105.5
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## 燃油系统 Fuel system

喷油泵进油口最大进油阻力 (kPa) Max. restriction at fuel pump inlet (kPa) .....	70
喷油泵最大回油阻力 (kPa) Max. fuel return restriction (kPa) .....	/
燃油最高进油温度 (°C) Max. fuel inlet temperature (°C).....	50
供油流量 (L/h) Fuel supply flow (kg/h) .....	/
输油泵最小压力 (kPa) Min. pressure of fuel pump (kPa).....	200
燃油进油管最小直径 (mm) Min. diameter of inlet pipe (mm).....	5.5
燃油回油管最小直径 (mm) Min. diameter of return pipe (mm) .....	5.5

## 电器系统 Electrical system

电气系统电压 (负极接地) (V) Electrical system voltage (negative to ground) (V) .....	12
起动机功率(kW) Starter power (kW) .....	3
充电发电机额定电流 (A) Battery charger current (A).....	35

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启动回路最大电阻 (mΩ) Max. electric resistance of starting circuit (mΩ)..... 4  
 启动回路导线最小截面积(mm<sup>2</sup>) Min. sectional area of wire (mm<sup>2</sup>) ..... 50  
 加热格栅工作电压(V)/电流(A) Heat The Grille Voltage(V)/Current(A) ..... /

### 热平衡测试数据 (环境温度/°C) Heat balance test data (/°C)

发动机进/出水压力 Coolant inlet/ output pressure (kPa)	额定工况 Rated working condition	14.9/19.4
	超负荷工况 Overload working condition	14.8/19.6
冷却液流量 Coolant flow (m <sup>3</sup> /h)	额定工况 Rated working condition	3.0
	超负荷工况 Overload working condition	3.0
发动机进/出水温度 Coolant inlet/output temperature (°C)	额定工况 Rated working condition	82.2/90.2
	超负荷工况 Overload working condition	83.6/92.6
中冷器前/后温度 Intercooler inlet/output temperature (°C)	额定工况 Rated working condition	122.1/44.1
	超负荷工况 Overload working condition	132.5/45.2
中冷器前/后压力 Intercooler inlet/output pressure (kPa)	额定工况 Rated working condition	98.3/97.1
	超负荷工况 Overload working condition	111.9/110.7
发动机总热量 Engine total heat (kJ/s)	额定工况 Rated working condition	108.9
	超负荷工况 Overload working condition	118.9
中冷器散热量 Intercooler heat dissipating capacity (kJ/s)	额定工况 Rated working condition	4.3
	超负荷工况 Overload working condition	5.1
排气带走的热量 The heat taken away by the exhaust (kJ/s)	额定工况 Rated working condition	27
	超负荷工况 Overload working condition	30.4
冷却液带走的热量 The heat taken away by the coolant (kJ/s)	额定工况 Rated working condition	27.9
	超负荷工况 Overload working condition	31.4
发动机表面辐射热量 Radiation heat of the engine surface (kJ/s)	额定工况 Rated working condition	5.6
	超负荷工况 Overload working condition	3.9

注: 因测量等误差原因, 表面辐射热量按发动机总热量的 5% 计算。

Note: Because of test errors and other reasons, the surface radiation heat is 5% of the engine total heat.

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## 性能数据 Performance data

活塞平均速度 (m/s) Mean Piston Speed (m/s) .....	4.6
平均有效压力 (MPa) .....	1.68
最高爆发压力(MPa) Maximum Burst Pressure(MPa) .....	/
最低空载稳定转速(r/min) Minimum No-load Speed(r/min).....	750±20
发火次序 Ignition Order .....	1-3-4-2
旋转方向 Sense of Rotation .....	逆时针 (面对飞轮) Anticlockwise (In the Face of Flywheel)

备注: 所有参数如有更改, 恕不另行通知。

Remark: All Parameters If Changed Without Prior Notice.