

# FUJIAN EPOS ELECTRIC MACHINERY CO., LTD

**EMEAN**  
POWER

**WEICHAI**  
潍柴

ENGINE MODEL: WP4.1D80E201

EMEAN POWER

[www.emeanpower.com](http://www.emeanpower.com)  
Email: [sale5@fjepos.com](mailto:sale5@fjepos.com)  
Phone: +86 19890349907

WHATSAPP



WECHAT



	机型: <b>WP4.1D80E201</b> Model:	日期: 23/02/01 Date:
	<b>发动机数据单</b> <b>Engine Datasheet</b>	

<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
1800		72	80

### 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℃以下时，需增加预热设施保证柴油机出水温度在 30℃以上；环境温度 5℃以上时，无需预热设施。增压柴油机环境温度 10℃以下时，需增

	<p>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	<ol style="list-style-type: none"> <li>1、不具备超负荷功率； No ability to overload;</li> <li>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.</li> </ol>
数据中心功率 DCP	<ol style="list-style-type: none"> <li>1、具有 10%超负荷能力； It has 10% overload capacity;</li> <li>2、每年运行时间不限； Annual run time is unlimited;</li> <li>3、在 ≤100%的可变或持续负荷下工作； Working under variable or continuous load of less than 100%;</li> <li>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.</li> </ol>

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>
-----------------	---

### 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 )	105×118
排量(L) Displacement(L)	4.087
燃油系统型式 Fuel System	机械泵 mechanical pump
进气形式 Aspiration	增压非中冷 Turbocharged
压缩比 Compression ratio	17.5
飞轮壳尺寸 Flywheel housing	SAE3
飞轮尺寸 Flywheel	11.5"
飞轮齿圈齿数 N° of teeth on flywheel ring gear	128
飞轮转动惯量 (kg/m <sup>2</sup> ) Inertia of flywheel (kg/m <sup>2</sup> )	0.391
曲轴转动惯量 (kg/m <sup>2</sup> ) Inertia of crankshaft (kg/m <sup>2</sup> )	0.111
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)	864×648×763 ( 以外形图为准 The outer chart shall prevail )
发动机干重 (kg) Engine dry weight (kg)	400
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)	-15

	机型: <b>WP4.1D80E201</b> Model:	日期: 23/02/01 Date:
	发动机数据单 <b>Engine Datasheet</b>	页码: 4 / 8 Page:

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) ..... -25

包装尺寸(长×宽×高) Packing size (L x W x H) (mm)..... 1150×850×918

运输重量 Packaging quality(kg)..... 500

**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

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)..... 410

应急备用工况下进气流量 (kg/h) Recommended air flow @ ESP (kg/h)..... 431

推荐最小进气管直径(mm) Min. diameter of intake pipe (mm)..... 60

**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)..... /

进气温度与环境温度的最大温差 (°C) Max. difference between intake temperature and ambient temperature (°C) ..... /

中冷器允许的最大压力降 (kPa) Max. intake pressure drop of intercooler (kPa) ..... /

**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 ) 39 , 出水 ( outlet ) 36

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)..... 76/89(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)..... 9.4(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)..... 10

最大的排气温度 (涡轮前) (°C) Max. exhaust temperature before turbocharger (°C)..... 560

最大的排气温度 (涡轮后) (°C) Max. exhaust temperature after turbocharger(°C)..... 560

	机型: <b>WP4.1D80E201</b> Model:	日期: 23/02/01 Date:
	发动机数据单 <b>Engine Datasheet</b>	页码: 5 / 8 Page:

额定工况下排气流量 (kg/h) Exhaust flow @ PRP (kg/h) ..... 425  
 应急备用工况下排气流量 (kg/h) Exhaust flow @ ESP (kg/h)..... 448  
 推荐排气管最小直径(mm) Min. diameter of exhaust pipe (mm)..... 70  
 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)..... 12/14  
 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..... 250~500  
 机油压力低报警值(kPa) Lowest oil pressure alarm value (kPa)..... 100  
 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 ~ 110  
 机油流量 (L/min) Oil flow (L/min)..... ≥44  
 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..... ≤0.1%

**噪声 Noise**

发动机噪声 ( 声功率级 ) (dB(A)) Diesel engine noise (Acoustic power level) (dB(A))..... 108.3

**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) ..... /  
 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)..... 70  
 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)..... /  
 燃油进油管最小直径 (mm) Min. diameter of inlet pipe (mm)..... 12  
 燃油回油管最小直径 (mm) Min. diameter of return pipe (mm)..... 12

**电器系统 Electrical system**

电气系统电压 ( 负极接地 ) (V) Electrical system voltage (negative to ground) (V)..... 24  
 起动机功率(kW) Starter power (kW)..... 4.5  
 充电发电机额定电流 (A) Battery charger current (A)..... 18  
 启动回路最大电阻 (mΩ) Max. electric resistance of starting circuit (mΩ)..... 4

	机型: Model:	<b>WP4.1D80E201</b>	日期: Date:	23/02/01
	<b>发动机数据单</b> <b>Engine Datasheet</b>		页码: Page:	6 / 8

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 29°C) Heat balance test data ( 29°C )**

发动机进/出水压力 Coolant inlet/ output pressure ( kPa )	额定工况 Rated working condition	60.2/73.5
	超负荷工况 Overload working condition	62.3/75.1
冷却液流量 Coolant flow ( m <sup>3</sup> /h )	额定工况 Rated working condition	7.1
	超负荷工况 Overload working condition	7.7
发动机进/出水温度 Coolant inlet/output temperature ( °C )	额定工况 Rated working condition	84.9/92.6
	超负荷工况 Overload working condition	85.4/93.7
中冷器前/后温度 Intercooler inlet/output temperature ( °C )	额定工况 Rated working condition	/
	超负荷工况 Overload working condition	/
中冷器前/后压力 Intercooler inlet/output pressure ( kPa )	额定工况 Rated working condition	/
	超负荷工况 Overload working condition	/
发动机总热量 Engine total heat ( kJ/s )	额定工况 Rated working condition	183.7
	超负荷工况 Overload working condition	204.2
中冷器散热量 Intercooler heat dissipating capacity ( kJ/s )	额定工况 Rated working condition	/
	超负荷工况 Overload working condition	/
排气带走的热量 The heat taken away by the exhaust ( kJ/s )	额定工况 Rated working condition	55.6
	超负荷工况 Overload working condition	63.2
冷却液带走的热量 The heat taken away by the coolant ( kJ/s )	额定工况 Rated working condition	63.6
	超负荷工况 Overload working condition	74.3
发动机表面辐射热量 Radiation heat of the engine surface ( kJ/s )	额定工况 Rated working condition	9.2
	超负荷工况 Overload working condition	10.2

	机型: Model:	<b>WP4.1D80E201</b>	日期: Date:	23/02/01
	发动机数据单 <b>Engine Datasheet</b>		页码: Page:	7 / 8

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.



	机型: <b>WP4.1D80E201</b> Model:	日期: 23/02/01 Date:
	发动机数据单 <b>Engine Datasheet</b>	页码: 8 / 8 Page:

### 性能数据 Performance data

活塞平均速度 (m/s) Mean Piston Speed (m/s)	7.08
平均有效压力 (MPa)	1.1749
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)	870±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.