



XE1250 液压挖掘机

技术规格书

XE1250 Hydraulic Shovel

Technical Specification



徐州徐工矿业机械有限公司

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一、总体概述

I. General overview

XE1250 液压挖掘机是徐工新研发的一款 120 吨级大型矿用液压挖掘机，专门针对矿山恶劣环境研发，产品以为客户创造最大效益为研发理念，产品具有作业效率高、可靠性好、挖掘力大、维保成本低、保养方便等特点。

XE1250 Hydraulic Shovel is a 120-tonne hydraulic excavator newly developed by XCMG for mining, which is specially designed for the harsh mining conditions. The product is designed to create maximum benefit for customers. It has the characteristics of high operating efficiency, good reliability, great digging strength, low maintenance cost and convenient maintenance.

二、设备亮点及特点

II. Highlights and features of the equipment

(一) 节能高效

(i) Energy conservation and high efficiency

原装进口康明斯发动机，动力强悍，可以保证在高负荷作业时强劲的动力输出，实现高效作业。更加强大的挖掘力在应对坚硬工况时作业能力更强，效率更高。铲斗配置丰富，斗容最小 5.2m³，最大 8.5m³，可以实现不同物料密度工况下最佳效率的发挥。自主研发的控制系统将发动机与主泵完美匹配，能够根据作业需求实现主泵和发动机功率的完美输出，达到最佳的油耗控制。液压系统采用独立散热，根据散热需要自动调整风扇马

达的转速，减少燃油消耗。

The product adopts the original imported Cummins engine with strong power, which can guarantee the strong power output in high load operation and achieve efficient operation. Stronger mining force is more capable and more efficient in dealing with hard working conditions. The bucket is rich in configuration, with a minimum capacity of 5.2m³ and a maximum capacity of 8.5m³, which can achieve the best efficiency under different material density conditions. The self-developed control system perfectly matches the engine and the main pump, and can realize the perfect output of the power of the main pump and the engine according to the operation requirements, so as to achieve the best fuel consumption control. The hydraulic system adopts independent heat dissipation, which can automatically adjust the speed of fan motor according to heat dissipation needs and reduce fuel consumption.

(二) 可靠耐用

(ii) Reliability and durability

采用加强型工作装置，动臂、斗杆和铲斗采用优质高强板材，结构经过优化分析。采用先进的焊接工艺和焊接设备，保证焊接的强度。工作装置关键连接部位采用锻件或者铸件结构，减少焊接的应力集中。标配重载岩石型铲斗，采用高强和耐磨板材，铲斗表面和轮廓周围使用耐磨合金防护，提高铲斗使用寿命。

销轴连接处增加轴套的使用，配合先进的润滑系统，可以保证长时间可靠的运行。

采用加强型底盘结构，回转支承座圈进行整体锻造，T形截面结构，避免受力最大位置在焊缝处，受力形式更好。夹轨器采用重型夹轨器，下车连接和轮系安装时均采用加长隔套，提高螺栓夹紧力，避免螺栓松动。

采用三排滚柱式回转支承，相比其他厂家使用的单排球式回转支承承载能力更强，回转更加平稳，使用寿命更长。

The product adopts the reinforced working device, the moving arm, bucket and bucket all adopt the high strength plank, the structure has been optimized and analyzed. It adopts advanced welding technology and welding equipment, so as to ensure the strength of welding. The key joint of the working device is made of forging or casting, which can reduce the stress concentration of welding. It is standard heavy-duty rock bucket, with high strength and wear resistant plate, the bucket surface and around the outline using wear resistant alloy protection, to increase the bucket life.

The use of shaft sleeve at the pin shaft connection is added, which is matched with advanced lubrication system to ensure long and reliable operation.

It adopts the reinforced chassis structure, and its slewing bearing seat is forged as a whole to form the T-shaped section structure, which can avoid the maximum position of stress in the weld, and the stress form is better. The rail clamps are heavy-load clamps, and the extended compartments are used to improve the clamping force of bolts and avoid losing bolts when connecting the rails and installing the gear train.

It adopts three row roller type slewing bearing, compared with the single

volleyball type slewing bearing used by other manufacturers, the bearing capacity is stronger, the turning is more stable, the service life is longer.

(三) 经济高效

(iii) Core and key technology

发动机采用旋流管式预滤器，同时利用排尘引射原理，利用发动机尾气将预滤器中的灰尘自动吸走，随尾气排出。这是徐工液压挖掘机独自采用的一种进气方案，不仅大大提高过滤效率，而且不需要保养，相比油浴式过滤器需要加油、清理更为省事。由于初级进气过滤效果好，减少了次级空滤滤芯的使用，大大减少保养滤芯花费的成本。

发动机燃油系统也采用两级过滤，初级粗滤采用德国进口的世柏旋流式过滤器，内部特殊的结构设计，能够有效过滤水分和杂质，采用金属网滤芯，通过清洗可以重复利用，减少了燃油粗滤更换滤芯的花费。液压油吸油过滤器采用金属滤芯，更换液压时进行清洗，重复利用，不用更换。

The engine adopts swirl pipe prefilter, and on the basis of dust emission ejecting principle, the exhaust gas of the engine is used to automatically absorb the dust in the prefilter and discharge it with the exhaust gas. This is an intake scheme adopted independently by XCMG hydraulic excavator, which can greatly improve filtration efficiency and does not require maintenance. Unlike oil-bath filters, which require refueling and cleaning, it's much less time-consuming. Due to the good effect of the primary intake filter, it can also reduce the use of the secondary empty filter element, greatly reducing the cost of maintaining the filter element.

The engine fuel system also adopts two stages of filtration. The primary coarse filter uses Separ spiral-flow filter imported from Germany, and its internal special structure design can effectively filter water and impurities. It adopts metal mesh filter element, which can be reused through cleaning, thus reducing the cost of fuel crude filter element replacement. Hydraulic oil suction filter adopts metal filter element, which needs to be cleaned when replacing the hydraulic pressure, and can be reused without replacement.

(四) 智能管控

(iv) Intelligent control

先进的 XEICS 徐工挖机智能管理系统，采用 CAN 总线通讯和物联网技术，集主控制系统、发动机 ECM、监控系统、操控面板、GPS 云控系统和现场诊断系统于一体，实现机器信息数字化共享，提高产品智能化水平。

便捷的手机 APP 微服务，随时随地掌握设备的位置、工作状态、工作时间、燃油消耗和保养周期等信息。

控制程序预先设定主泵功率控制，在高原地区，可以通过仪表进行设定主泵功率比值，实现高原环境下主泵与发动机功率的最佳匹配。

The product has an advanced XEICS excavator intelligent management system of XCMG, which adopts CAN bus communication and Internet of things technology. It integrates the main control system, engine ECM, monitoring system, control panel, GPS cloud control system and field diagnosis system into a whole, which can realize the digital sharing of machine information and

improve the intelligent level of product.

The convenient mobile APP micro-service can grasp the location, working condition, working hours, fuel consumption, maintenance period and other information of the device anytime anywhere.

Its control program is preset to control the power of the main pump. In the plateau region, the power ratio of the main pump can be set by the instrument to achieve the best match between the main pump and the engine power in the plateau environment.

(五) 保养方便

(v) **Intelligent control**

采用 30L 大容量自动润滑系统，能够实现工作装置主要销轴和回转支承的润滑，减少了司机加润滑脂的劳动强度，节省了保养时间，有更多的时间进行作业。整机采用人性化设计，油品加注、液位检查、油品排放、滤芯更换都十分方便，保养省事省力。

The product adopts 30L high-capacity automatic lubrication system, which can realize the lubrication of the main pin shaft and rotary support of the working device, reduce the labor intensity of the driver adding grease, save the maintenance time, and make it have more time to work. The whole machine adopts the humanized design, it's very convenient for the oil filling, liquid level inspection, oil discharge and filter element replacement, and its maintenance is very convenient and effort-saving.

(六) 安全舒适

(vi) Safety and amenity

采用加强型驾驶室，能够满足 FOPS 防护标准，前窗采用夹胶玻璃，受到意外撞击后，不会完全碎裂，能够更好的保护操作者。另外，驾驶室可选配前防护网，用于特殊场所的使用。驾驶室内部配置电装自动冷暖空调，可以让司机在各种气温环境下舒适的操作机器。

车辆有左右和中部走台，方便上下车和车辆保养。左右走台有高围栏，保护人员安全。驾驶室顶部有旋转报警灯，同时车身安装有蜂鸣器，在车辆行走和回转时，报警灯闪烁，蜂鸣器响亮，提醒周围人员注意安全。

驾驶室内部、机棚框架、右前转台三个位置布置有急停开关，能够在紧急情况下停止发动机。配重顶部安装有后视摄像头，车辆行走时能够自动启动，提高安全性。

The product adopts reinforced cab, which can meet FOPS protection standards. The front window is made of laminated glass, which will not break completely after accidental impact, and can better protect the operator. In addition, the cab can be equipped with an optional front protection net for use in special places. Electric automatic air conditioning is installed inside the cab, allowing the driver to operate the machine comfortably in a variety of temperature environments.

The truck is equipped with left and right walking platforms to facilitate getting on and off, and it's also convenient for maintenance. The high fence on

left and right walking platforms can protect the safety of personnel. There is a rotating alarm light on the top of the cab and a buzzer mounted on the car body. When the vehicle is moving and turning around, the flashing alarm lights and the buzzer can remind the people around to pay attention to safety.

Emergency stop switches are arranged at cab interior, hangar frame and right front turntable, which can stop the engine in case of emergency. The top of the counterweight is equipped with rear-view camera, which can start automatically when the vehicle is walking to improve safety.

三、产品关键配置情况

III. Key configuration of the product

| | 部件 Units | 品牌 Brands | 国家 Countries |
|-----------------------------|---------------------------------|----------------------------|-----------------|
| 动力系统 Dynamical system | 发动机 Engine | 康明斯 Commins | 美国 USA |
| | 散热器 Radiator | 东洋 TOYO | 日本 Japan |
| 液压系统 Hydraulic system | 主阀 Main valve | 纳博 Nabtesco | 日本 Japan |
| | 回转马达减速机 Rotary motor reducer | 川崎 Kawasaki | 日本 Japan |
| | 主泵 Main pump | 川崎 Kawasaki | 日本 Japan |
| | 行走减速机 Travel reducer | 徐工定制 XCMG customized | 中国 China |
| | 液压油缸 Hydraulic cylinder | 徐工定制 XCMG | 中国 China |

| | | | |
|---------------------------------------|---------------------------------------|--------------------------|-------------|
| | | customized | |
| 四轮一带 Four wheel and one crawler | 四轮一带 Four wheel and one crawler | 徐工自制 XCMG homemade | 中国 China |

(一) 动力系统

(i) Dynamical system

采用原装进口康明斯 (QSK23) 电控、直喷、4 冲程、水冷、涡轮增压、空空中冷、六缸大扭矩低转速发动机，额定功率为 567KW，转速为 1800r/min，最大扭矩 3468N.m/1350rpm。

The product adopts the original imported Cummins (QSK23) electronic-controlled, direct-injection, 4-stroke, water-cooled, turbocharged, air-to-air cooled, six-cylinder engine with large torque and low speed. The rated power is 567KW, the speed is 1800R /min, and the maximum torque is 3468N.M /1350rpm.

进气系统为两级过滤，配有旋流管式空气预滤器，同时装有排气引射装置，能够自动将预滤器中的灰尘排出。次级过滤器选用高质量的美商唐纳森轴向密封空滤器，能适应多粉尘等恶劣工况；采用 Ultra-Web 滤材，过滤效果提高至 99.99%，滤芯寿命提高 2 倍。

该发动机具有高可靠性、高适应性的优点，排放达到欧洲 II 阶段标准，是专门针对工程机械作业工况精心设计制造的产品。

The intake system is a two-stage filter, equipped with a cyclone tube air prefilter and an exhaust ejector device, which can automatically remove the dust from the prefilter. The secondary filter adopts high quality American Donaldson axial sealed air filter, which can adapt to heavy dust and other harsh conditions. It uses Ultra-Web filter material, which improves the filtering effect to 99.99% and increases the life of the filter element by 2 times.

The engine has the advantages of high reliability, high adaptability, emissions reach European standard II stage, is carefully designed and manufactured specifically for engineering machinery operation conditions of products.



(二) 液压系统

(ii) Hydraulic system

采用液控正流量系统，成熟可靠。关键液压零部件全部选用国际知名品牌成熟可靠的零部件，性能先进，可靠性高。采用3个同型号的川崎K3V280主泵，通用性好，备件方便。使用开式回转系统，技术稳定，不进行回转时，回转泵的流量可用于工作装置，最大流量达到 $3 \times 531\text{L}/\text{min}$ ，挖掘速度快。

The equipment adopts liquid control positive flow system, which is mature and reliable. All the key hydraulic components are mature and reliable components of international famous brands with advanced performance and high reliability. It adopts three kawasaki K3V280 main pumps of the same model, which has good universality and convenient spare parts. Using the open rotary system, the technology is stable, without rotary, rotary pump flow can be used in the working device, the maximum flow reaches $3 \times 531\text{L}/\text{min}$, mining speed is fast.

液压系统采用独立散热，风扇转速根据液压油温自动调整转速，降低油耗。分动箱齿轮油进行循环散热，避免高温变质，保证良好的润滑效果。

液压系统增加了泄油过滤器和高压过滤器，可以对液压系统进行更好的过滤和保护，延长液压元件的使用寿命。

The hydraulic system adopts independent heat dissipation, and the fan speed is automatically adjusted according to the hydraulic oil temperature to reduce fuel consumption. The transmission box gear oil circulates the heat, avoids the high temperature deterioration, guarantees the good lubrication effect.

The hydraulic system has added oil drain filter and high pressure filter,

which can filtrate and protect the hydraulic system better and prolong the service life of hydraulic components.

四、产品主要技术参数

IV.Main technical parameters of the product

| 名称 Name | 单位 Unit | 参数 Parameter | |
|---------------------------|------------------------|-----------------|---------------|
| 操作重量 Operating weight | Kg | 115000 | |
| 斗容 Bucket capacity | m ³ | 7 | |
| 动臂长度 Boom length | mm | 7550 | |
| 斗杆长度 Bucket rod length | mm | 3400 | |
| 发动机 Engine | 发动机型号 Engine type | / | Cummins QSK23 |
| | 直喷 Direct injection | / | √ |
| | 4冲程 Four stroke | / | √ |
| | 水冷 Water cooling | / | √ |

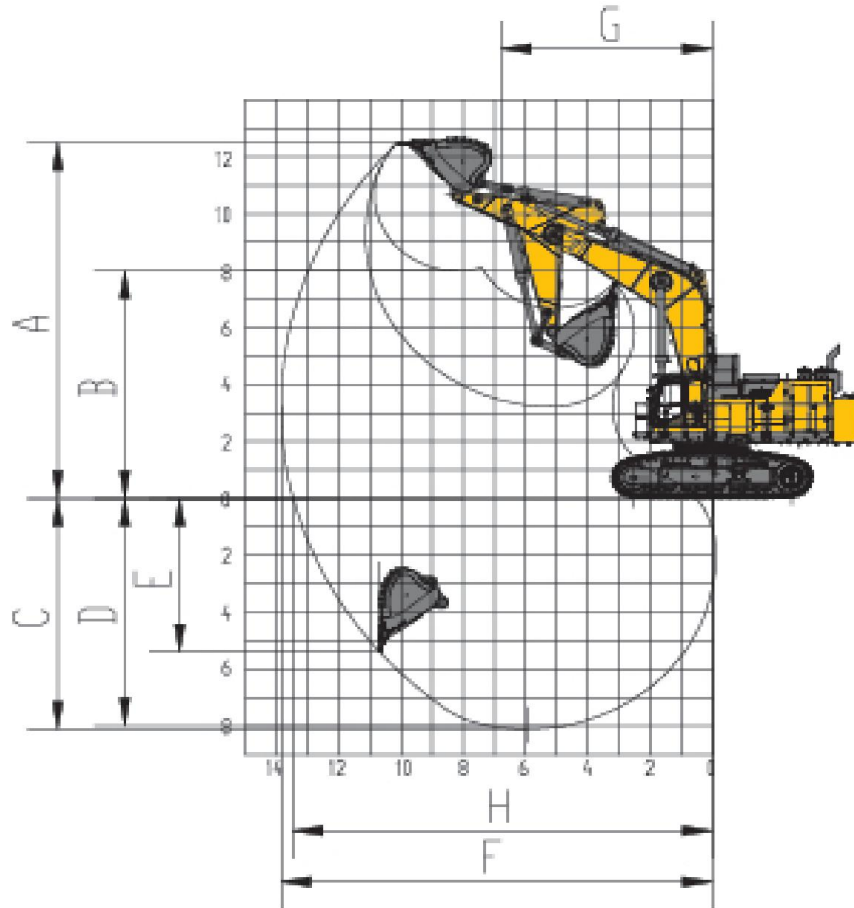
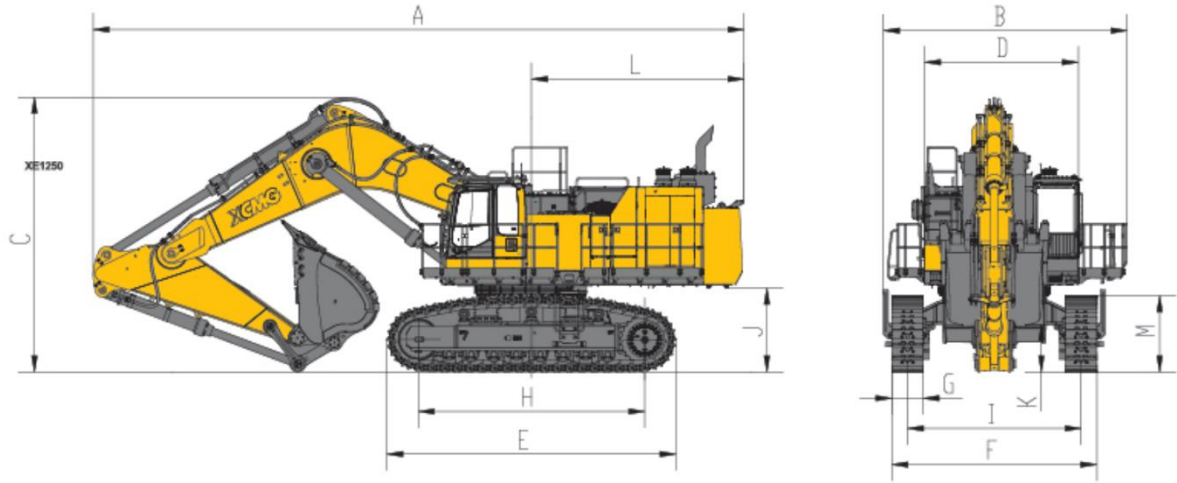
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|--------------------------|--|--------|-----------|
| | 涡轮增压 Turbo charger | / | √ |
| | 空空中冷 Air cooler | / | √ |
| | 缸数 Number of cylinders | / | 6 |
| | 发动机额定功率 Engine rated power | kw/rpm | 567/1800 |
| | 最大扭矩/转速 Maximum torque/rotational speed | N.m | 3468/1350 |
| | 排量 Displacement | L | 23.15 |
| 主要性能 Main performance | 行走速度 Walking velocity | km/h | 3.5/2.4 |
| | 回转速度 Rotating speed | r/min | 5.2 |
| | 爬坡能力 Gradeability | ° | 30 |
| | 接地比压 Grounding pressure | kPa | 143 |
| | 铲斗挖掘力 | kN | 597 |

| | | | |
|--------------------------|-----------------------------------|-------|--------|
| | Bucket digging force | | |
| | 斗杆挖掘力 Bucket rod digging force | kN | 470 |
| | 最大牵引力 | kN | 746 |
| | Maximum tractive force | | |
| 液压系统 Hydraulic system | 主泵 | | 3 个柱塞泵 |
| | Main pump | | |
| | 主泵额定流量 | L/min | 3×531 |
| | Rated flow of main pump | | |
| | 主安全阀压力 | MPa | 34.3 |
| | Main relief valve pressure | | |
| | 行走系统压力 | MPa | 34.3 |
| | Running system pressure | | |
| | 回转系统压力 | MPa | 28 |
| | 回转系统压力 | | |
| | Rotary system pressure | | |
| | 先导系统压力 | MPa | 3.9 |
| | Pilot system pressure | | |
| | 燃油箱容积 | L | 1460 |
| 油类容量 Fuel capacity | Fuel tank capacity | | |
| | 液压油箱容积 | L | 640 |
| | Hydraulic oil tank capacity | | |
| | 发动机机油容量 | L | 75 |
| | | | |

| | Engine oil capacity | | |
|------------------------------|-------------------------------------|------|-------|
| 外形尺寸 Overall dimension | A 总长 A overall length | mm | 14610 |
| | B 总宽 B overall width | mm | 5470 |
| | C 总高 C overall height | mm | 6160 |
| | D 转台宽度 D Steering width | mm | 3490 |
| | E 履带长度 E Track length | mm | 6500 |
| | F 底盘总宽 F Chassis width | mm | 4600 |
| | G 履带宽度 G Crawler width | mm | 700 |
| | H 履带轴距 H Distance between tracks | mm | 5090 |
| | I 轨距 I Gauge | mm | 3900 |
| | J 配重离地间隙 J Ground clearance | mm | 1880 |
| K 最低离地间隙 | mm | 1070 | |

| | | | |
|--------------------------|---|----|-------|
| | K Minimum ground clearance | | |
| | L 尾部最小回转半径 L Tail least radius of gyration | mm | 4850 |
| | M 履带高度 M Track height | mm | 1710 |
| 工作范围 Working range | A 最大挖掘高度 A Maximum digging height | mm | 12500 |
| | B 最大卸载高度 B Maximum dumping height | mm | 7990 |
| | C 最大挖掘深度 C Maximum digging depth | mm | 8110 |
| | D 8 英尺水平面挖掘深度 D 8 feet depth of horizontal excavation | mm | 7980 |
| | E 最大垂直挖掘深度 E Maximum vertical mining depth | mm | 5390 |
| | F 最大挖掘半径 F Maximum digging radius | mm | 13860 |
| | G 最小回转半径 G Minimum swing radius | mm | 6770 |
| | H 地面最大挖掘半径 | mm | 13470 |

| | | | |
|--------------------------------|---|----------------|----------------------|
| | H Maximum ground digging radius | | |
| 选装配置 Optional configuration | 铲斗斗容 Bucket capacity | m ³ | 5.2 岩石 Rock |
| | | m ³ | 6.0 岩石 Rock |
| | | m ³ | 7.7 加强 Reinforced |
| | | m ³ | 8.5 土方 earthwork |
| | 发动机低温加热系统 Engine low temperature heating system | | |
| | 燃油箱快速加注 Quick refill of fuel tank | | |
| | 底盘全防护夹轨器 Fully protected rail clamps for chassis | | |
| | 驾驶室前防护 Bridge front protection | | |
| | 机棚和配重围栏 Hangar and counterweight fence | | |



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