徐工重型 王者时代
引领行业步入智能加节能时代

中国工程机械行业的技术变革之路
从1963年，中国推出第一代汽车起重机，此后，徐工以数十年引领行业技术变革。
70年代，徐工率先进入全液压汽车起重机领域，推动了中国起重机行业的第一次技术革命。
2000年，徐工推出的X系列汽车起重机开创了一个全新时代。
2002年，中国首台全地面起重机在徐工诞生，中国起重机重新回到世界起重机领域，徐工再一次站在了行业的最前沿。
2004年徐工重磅推出“东风”、“单缸双动小飞龙”、“单缸预装自动伸缩”吊臂技术，在汽车起重机行业再一次引领了革命，给中国装备制造业增添了浓墨重彩的一笔。
2009年，徐工推出的QAY400，引领行业步入智能+节能时代。

XCMG: Xuzhou Heavy Machinery Co., Ltd. (XZHM)
KING’S TIME
The Leader of Chinese Crane Industry

The technological innovation way of Chinese construction crane industry
In 1963, China introduced the first generation of crane trucks. Subsequently, XCMG has led the industry technological innovation successively. In the 1990s, XCMG introduced the first full hydraulic truck crane field, which set off the first technological innovation in the construction crane industry.
In 2000’s, XCMG developed the X series of truck cranes, which represented the breakthrough of Chinese technological innovation.
In 2002, the first Chinese A series of crane trucks entered the high-end crane field and XCMG won the first place in the global crane market.
In 2004, XCMG successfully introduced the World’s first self-propelled vehicle crane with a lifting capacity of 400 tons, which represented theSTEP2: Advancing Technology
XCMG introduced the world's first self-propelled vehicle crane with a lifting capacity of 400 tons, marking a technological revolution in the construction crane industry. This advancement has significantly reduced energy consumption and improved production efficiency.

In 2009, XCMG introduced the world's first intelligent crane, setting a new standard for the industry.

XCMG has been a leader in the Chinese construction crane industry, consistently pushing the boundaries of innovation and technology.

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八大技术亮点 EIGHT TECHNOLOGICAL HIGHLIGHTS

XCMG ALL Terrain Crane possesses 225 patent technologies, and adopts 38 completely new patent technologies.

- **多种臂架组合技术**
  Various boom combination technologies
  提高作业空间，提升性能持续性
  Operating space is expanded and the lifting capacity is improved.

- **超起技术**
  Superlift technology
  降低臂架振动，提升性能持续性
  Boom deflection is reduced and the lifting capacity is improved.

- **智能化操控系统**
  Intelligent control system
  多工况，多模式，多场景的智能控制技术，
  操作更安全便利
  Intelligent control system with multi-scenario and multi-mode control technology, more convenient and safe operation.

- **超升系统动态匹配技术**
  Dynamic matching technology in lifting system
  液压效率提高15～20%
  Hydraulic efficiency is improved 15～20%.

- **油气悬挂技术**
  Hydro-pneumatic suspension technology
  载重行驶平稳，通过性优
  Vehicle running is smooth and excellent through-ability.

- **专用分析软件结构优化设计**
  Special analyzing soft, structure optimized design
  终身使用寿命周期更长，承载能力和抗风性能增强
  Lifetime is prolonged, and carrying capacity and wind resistance are strengthened.

- **新制动技术**
  New brake technology
  终生使用寿命周期更长，制动安全可靠
  Lifetime is prolonged, and braking is more safe and reliable.

- **自组合式平衡配重技术**
  Self-assembled technology of counterweight
  提高效率，全工况适用
  Working efficiency is improved, all working conditions are covered.
先进的驱动装置

- 发动机采用废气涡轮增压中冷的进口电喷发动机（额定功率：420kw/1800rpm；最大扭距：2700N·m/1800rpm）。
- 变速箱采用进口6速自动变速器变速箱，带液力变矩器和多档位。
- 驱动桥采用进口双联片式离合器，驱动桥和变色灯。
- 动力系统采用液压起动系统。水冷却和预约冷却，操作手位置在驾驶室右侧，采用液压驱动技术。
- 回转系统采用双级同步器，双档位是由驱动系统，且设有紧急回路系统。
- 喷气车速70km/h。
- 最大爬坡度40%。
- Bing powerful electronic injection engine (rated power of 420kw/1800rpm, max. torque of 2700N·m/1800rpm). 
- Imported 6-speed automatic control transmission with selector and PTO. 
- Imported transfer box with high-low speed, parts of differentials and PTO. 
- Air cooling, water cooling and oil cooling are combined for heat dispersion of power system. With fan driven hydraulically, radiator is horizontally positioned at the right side of engine, and the fan located in the front end of the engine is retained for sucking cold air to lower the temperature of the engine block. 
- Drive 4x4, 2x1, 5th and 6th axles are for driving. 
- Steering is semi-axle steering, double-circuit hydraulic servo system, and with emergency circuit equipped. 
- Maximum vehicle speed is 70km/h. 
- Maximum gradeability is 40%. 

大型全地面起重机超起技术

- 桅杆偏转角度20°～30°。 
- 建造高稳固度70°～220°。 
- 组合装置的超起装置自身功能。 
- 全过程自动化完成，无需其他设备配合，方便快速。 
- 起重系统轻松地完成1人操作完成，极大缩短工作时间。 
- Boom deflection is reduced 20°～30°. 
- The lifting capacity is improved 70°～220°. 
- Unique super lift device is self-removal function. 
- Whole assembly process is finished by itself, no need for other equipment, convenient and quick. 
- Only one person is enough for assembly, working efficiency is improved greatly.
**Single cylinder telescoping boom technology**

- 5 sections, length 63m.
- High-strength steel, light weight, high performance.
- Precise layout, opening technology, high strength, high reliability.
- Automatic telescoping system, improving efficiency.
- Various configurations of telescoping boom are optimized for free movement.

**Various combinations of working condition**

1. Main boom telescoping working condition, boom length 15.5-63m.
2. Main boom + superlift working condition, the lifting capacity is improved by 50%.
3. Fixed lattice Jib working condition, Jib length 7-48m, offset angles of 0°, 20° and 40° are available, mounted on the telescoping boom of 15.5-57.4m.
4. Lifting lattice Jib working condition, Jib length 28-77m, mounted on the telescoping boom of 36.4-57.4m.
5. Superlift + lifting Jib working condition, boom angles are 68°, 75° and 83°.
自组合平衡重技术

Self-assembled technology of counterweight

- 自主研发的组合式平衡重技术，能有效提升中长臂性能30%。
- 安装和拆卸都十分方便灵活。
- 通过改变配重重量，无需其他设备配合，方便快捷。
- 多重平衡组合方式，可满足所有工况的需求。
- 平衡重组合安装只需1-2个小时，极大缩短工作时间。
- 不同工况下所有配置和配置代用平衡重可拆装替换。
- 自组合装技术由中车自主研发，保证了稳定性。
- 完全自组合装方式是通过组合而成，无需其他工具，操作简便。
- 多种组合方式以适应不同工况，提升工效。
- 基于自组合装技术及配置，可变配重设计。
- 原装进口液压泵系统，确保了性能。
- 优化设计提升系统性能，性能参数最优。
- 底盘全幅操作，全道路性能提升。
- 整体底架采用双箱体结构，承载能力强。
- 盗线式和大臂式双箱体设计，提升结构强度。
- 优化设计提升系统性能，性能参数最优。
- 底盘全幅操作，全道路性能提升。
- 整体底架采用双箱体结构，承载能力强。
Overall ergonomic design

- **Operational convenience**
  - The operating platform is designed for easy operation, with all necessary controls within reach and ergonomic layout.

- **Comfortable cab**
  - The cab is equipped with adjustable seating, air conditioning, and noise reduction systems to ensure a comfortable working environment.

- **Safety and protection**
  - The crane is equipped with advanced safety features, including a fall protection system, overload protection, and automatic braking systems to ensure operator safety.

- **Ease of maintenance**
  - The design allows for easy access to all parts of the crane for maintenance, ensuring minimal downtime and high availability.

- **Environmental protection**
  - The crane is designed to minimize environmental impact, with features such as fuel-efficient engines and emission reduction technologies.

- **Operator comfort**
  - The control room is equipped with a comfortable seat, an adjustable steering wheel, and an easy-to-read instrument panel.

- **Intuitive controls**
  - All controls are strategically placed for easy access and intuitive operation, reducing the learning curve for new operators.

- **High visibility**
  - The crane is equipped with high-visibility lights and mirrors to ensure safe operation in various lighting conditions.

- **Efficiency**
  - The crane is designed for maximum efficiency, with features such as load-sensing hydraulics and advanced control systems to optimize performance.

- **Reliability**
  - The crane is built to withstand heavy loads and rigorous conditions, with robust components and a long service life.

- **Operator health and welfare**
  - The design of the crane places emphasis on operator health and welfare, with features such as ergonomic seating and adjustable controls.
智能化操控系统

Intelligent control system

徐工智能控制

XCMG QCQ Intelligent Control System

- 智能化控制程序，功能更强大，使用更便捷。
- 系统自适应调整，确保安全稳定运行。
- 自动化程度高，操作简单。
- 可以实时监控设备运行状态。
- 通过智能分析，预测设备故障，及时预警。

虚拟墙系统

Virtual Wall System

- 设计用于保证作业时的安全。
- 可设置工作范围，避免碰撞。
- 显示工作区域，方便操作。
- 支持多种工作模式，适应不同工况。

伸缩式臂架系统

Telescoping Boom Control System

- 可伸缩臂架设计，灵活性高。
- 支持多种工作载荷，适应性强。
- 自动平衡装置，保证工作安全。
- 设有防倾斜装置，确保设备稳定。

完美的故障诊断及实时监控功能

Perfect Fault Diagnosis and Real-time Monitoring Function

- 实时监控设备运行状态，及时发现故障。
- 故障类型和位置一目了然，便于快速处理。
- 通过数据分析，预测可能的故障点。
- 设有远程监控功能，方便远程操作。

徐工全地面起重机

XCMG QAY400 All Terrain Crane

- 全面提升作业效率，安全可靠。
- 设计先进，外观时尚。
- 配备强大动力系统，性能卓越。
- 低噪音设计，环保节能。

(注：以上内容为示例，具体产品信息请参阅产品手册。)
### CANbus Technology

- Enhanced component integration:
  - Reduced number of cables and connectors, improving reliability.
  - Faster data transmission and processing.

- CANbus components:
  - Easily diagnosable by control nodes, faults can be quickly and accurately identified.

- CANbus technology:
  - Extensive space for improving overall machine efficiency.

### Key Components

1. Temperature Sensor
2. CANbus Node
3. LED Indicator
4. Operational Interface
5. Load Cell
6. Hydraulic Cylinder
7. Engine
8. Battery
9. Encoder
10. Solenoid Valve
11. Motor
King’s Time
XCMG leads the industry into the intelligent and energy-saving time.