



徐工集团徐州重型机械有限公司
XCMG XUZHOU HEAVY MACHERY CO.,LTD.



□QAY180 □QAY220 □QAY260 □QAY300 □QAY400 ✓QAY500

全地面起重机
All Terrain Crane

徐工重型 王者时代

中国起重机行业的领跑者

中国工程起重机行业技术变革之路

从1963年，中国推出第一代汽车起重机，此后，徐工连续五次引领行业技术变革；

70年代，徐工率先进入全液压汽车起重机领域，掀起了中国起重机行业的第一次技术革命；

2000年，徐工推出的K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，中国从此步入高端起重机领域，徐工再一次跑在了行业的最前端；

2004年徐工重型突破封锁、自主创新，成功掌握“U形”、“单缸插销自动伸缩”吊臂技术，在汽车起重机行业再一次引发了革命，给中国装备制造制造业增添了绚烂的一笔。

2009年，徐工推出QAY500，奠定了徐工在中国起重机行业的领先地位。

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 truck crane. Afterwards, XCMG has led the industry technological innovation successively for five times;

In the 1970's, XCMG took the lead in getting into Full hydraulic truck crane field, which set off the first technological innovation in Chinese crane industry;

In 2000, K series Truck cranes introduced by XCMG created a completely new time;

In 2002, the first Chinese All Terrain Crane was born in XCMG, from then on China stepped into the high-end crane field, and XCMG run in the most front among the domestic industry players once again.

In 2004, XCMG successfully mastered "U" -shaped, "single cylinder pin automatically telescoping" boom technologies after breaking blockage and performing self-innovation, which sparked another technological revolution in Chinese truck crane industry, and added a splendid stroke to Chinese equipment manufacture industry.

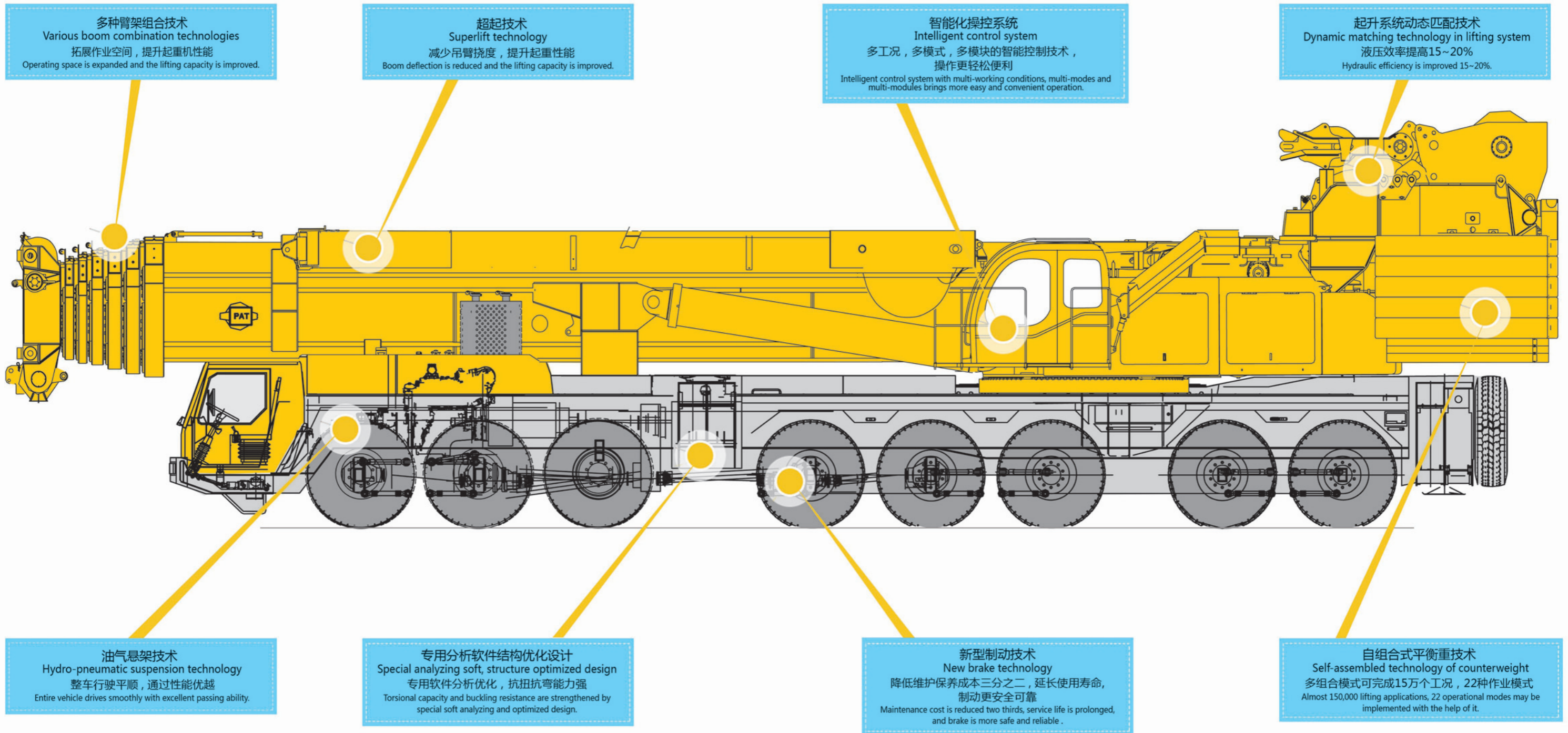
In 2009, XCMG introduced QAY500, established its leading position in Chinese crane industry.



八大技术亮点 EIGHT TECHNOLOGICAL HIGHLIGHTS

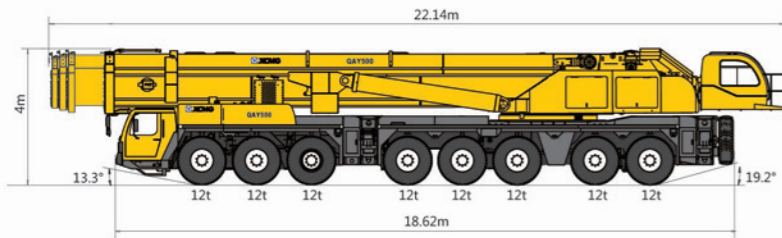
徐工全地面起重机拥有222项专利技术 采用38项全新专利技术

XCMG All Terrain Crane possesses 222 patent technologies, and adopts 38 completely new patent technologies.



紧凑/灵活/重量优化

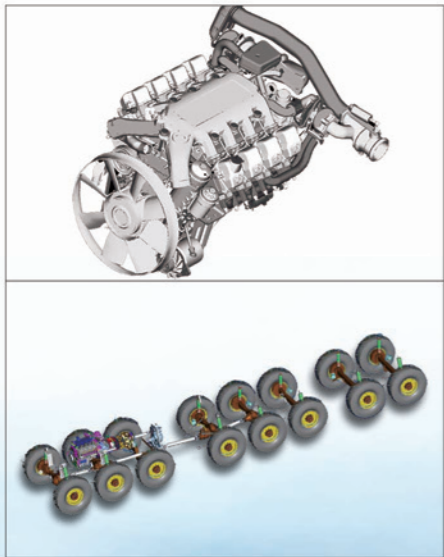
Compact/maneuverable/weight-optimized



- 行驶状态全长22.14m，底盘长度14.925m。
- 接近角为13.3°，离去角为19.2°。
- 全桥转向时，最小转弯半径仅为15m。
- 行驶状态总重量仅96t，轴重9×12t。
- 全配置还包括180t配重，7节84m主臂，56m固定加长副臂，91m变幅副臂，Y形超起装置。
- Entire length 22.14m, and carrier length 14.925m in travel configuration.
- Approach angle is 13.3°, departure angle is 19.2°.
- The minimum turning radius is 15m during all-axle steering.
- Total vehicle weight in travel configuration is only 96t, and axle load 9×12t.
- Seven-section boom extending to 84m, fixed extension jib of 56m and 91m luffing jib, 180t counterweight and Y-type superlift device are standard equipments.

先进的驱动装置

Advanced driving devices

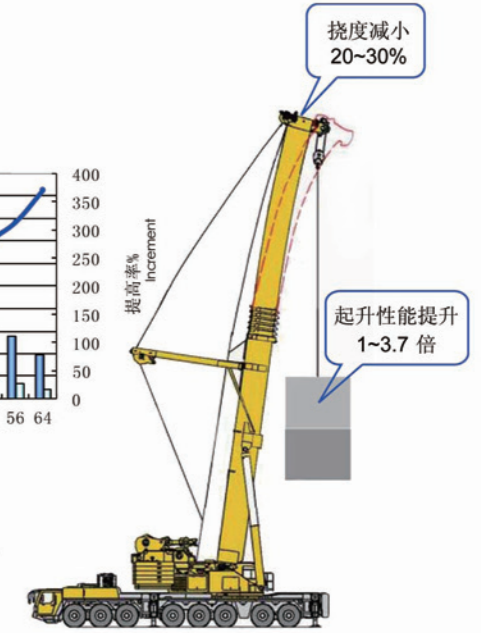
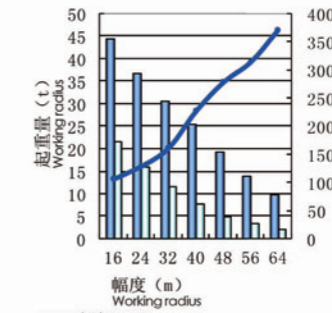
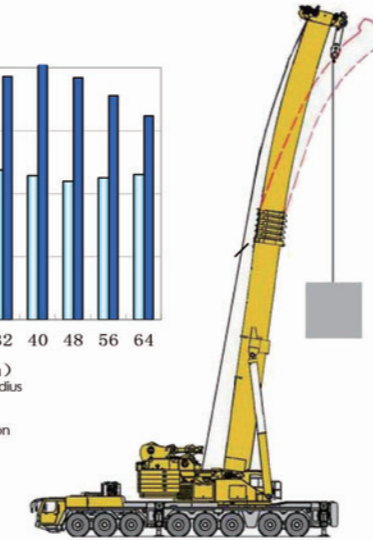
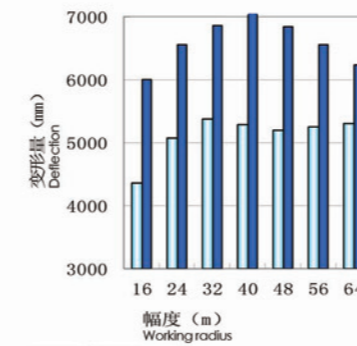


- 发动机采用动力系统强劲的进口奔驰电喷发动机（额定功率480kw/1800rpm；最大扭矩：2800Nm/1100rpm）。
- 变速箱采用匹配德国ZF TC-Tronic电控变速箱，带缓速制动及变矩器。
- 分动箱采用进口大降距分动箱，带高低档，差速器及取力接口。
- 动力系统散热采用风冷、水冷和油冷相结合，散热器平置在发动机右侧，采用液压驱动风扇工作，同时发动机前端仍保留风扇，吸入冷风为机体表面降温。
- 驱动/转向形式为14×8×12，进口Kessler桥1、2、3、4、7、8轴转向，1、2、4、5轴驱动，6轴承重。
- 最高车速80Km/h。
- 最大爬坡度35%。
- Benz powerful electronic injection engine (rated power of 480kw/1800rpm, max. torque of 2800Nm/1100rpm).
- Germany ZF TC-Tronic electric control transmission with retarder and PTO.
- Imported transfer box with high/low speed, ports of differential 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 / Steering 14×8×12, imported Kessler axles, 1st, 2nd, 3rd, 4th, 7th and 8th axles are for steering, 1st, 2nd, 4th, and 5th axles are for driving, and 6th axle for load bearing.
- Maximum vehicle speed is 80Km/h.
- Maximum grade ability is 35%.

大型全地面起重机超起技术

Large-tonnage All terrain crane superlift technology

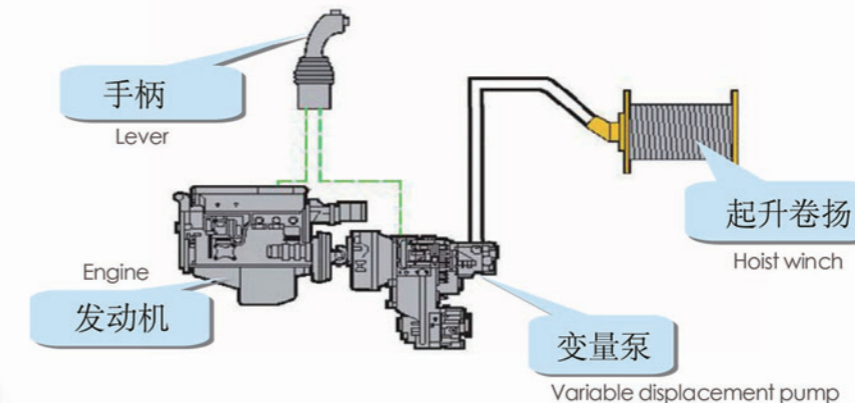
- 减小吊臂挠度20~30%。
- 提升起重性能1~3.7倍。
- Boom deflection is reduced 20~30%.
- The lifting capacity is improved 1~3.7 times.



起升系统动态匹配技术

Dynamic matching technology in lifting system

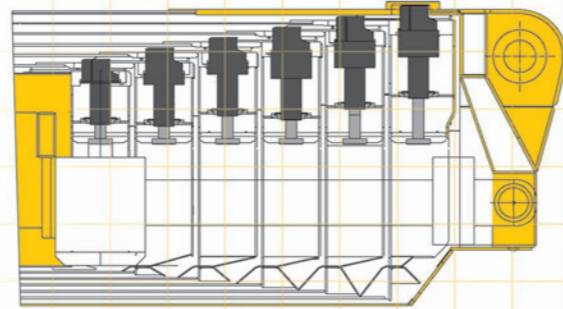
- 液压效率提高15~20%。
- 防止二次起升下滑。
- 消除起升系统微动时抖动现象。
- 防止起升马达失速，飞车现象。
- 负功率吸收及马达下降失速控制。
- Hydraulic efficiency is improved 15~20%.
- Sliding during second lifting operation is prevented.
- Shaking during inching control in lifting system is eliminated.
- Motor stall and racing are avoided.
- Motor stall is controlled by negative power absorbing.



单缸伸缩臂技术

Single cylinder telescoping boom technology

- 7节伸缩臂总长84m。
- 采用高强度进口钢材，自重更轻，性能更强。
- 椭圆形截面，变截面技术，抗扭强度大，稳定性高。
- 快速自动伸缩系统提高作业效率。
- 优化的多种伸缩组合方式，最大限度的发挥起重臂性能。
- 高强度耐磨滑块。
- 臂架工况组合：
 - 组合一：主臂工况
 - 组合二：主臂+超起工况
 - 组合三：主臂+固定加长副臂工况
 - 组合四：主臂+超起+固定加长副臂工况
 - 组合五：主臂+变幅副臂工况
 - 组合六：主臂+超起+变幅副臂工况

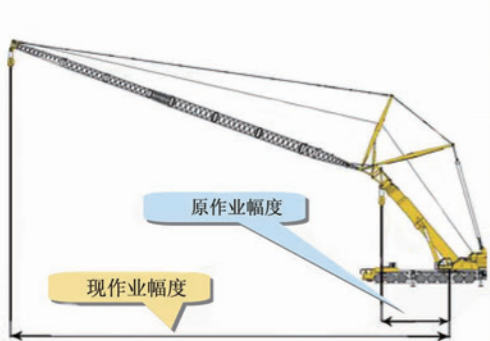


- Seven-section telescopic boom up to 84m.
- Made of high tensile imported steel, lighter dead weight and stronger capacity.
- Oval cross-section and tapered cross-section technology contribute to larger torsion-resistant strength and higher stability.
- Fast automatically telescoping system improves operating efficiency.
- Various configurations of telescoping boom are optimized, which give free rein to its lifting capacity maximally.
- High strength wear sliders are available.
- Various combinations of working condition:
 - Combination 1: Main boom working condition;
 - Combination 2: Main boom + superlift working condition;
 - Combination 3: Main boom + fixed extension jib working condition;
 - Combination 4: Main boom + superlift+ fixed extension jib working condition;
 - Combination 5: Main boom+ luffing jib working condition;
 - Combination 6: Main boom+ Superlift + luffing jib working condition.

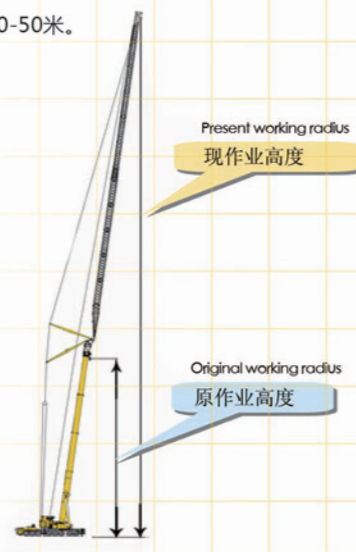
多种臂架组合技术

Various boom combination technologies

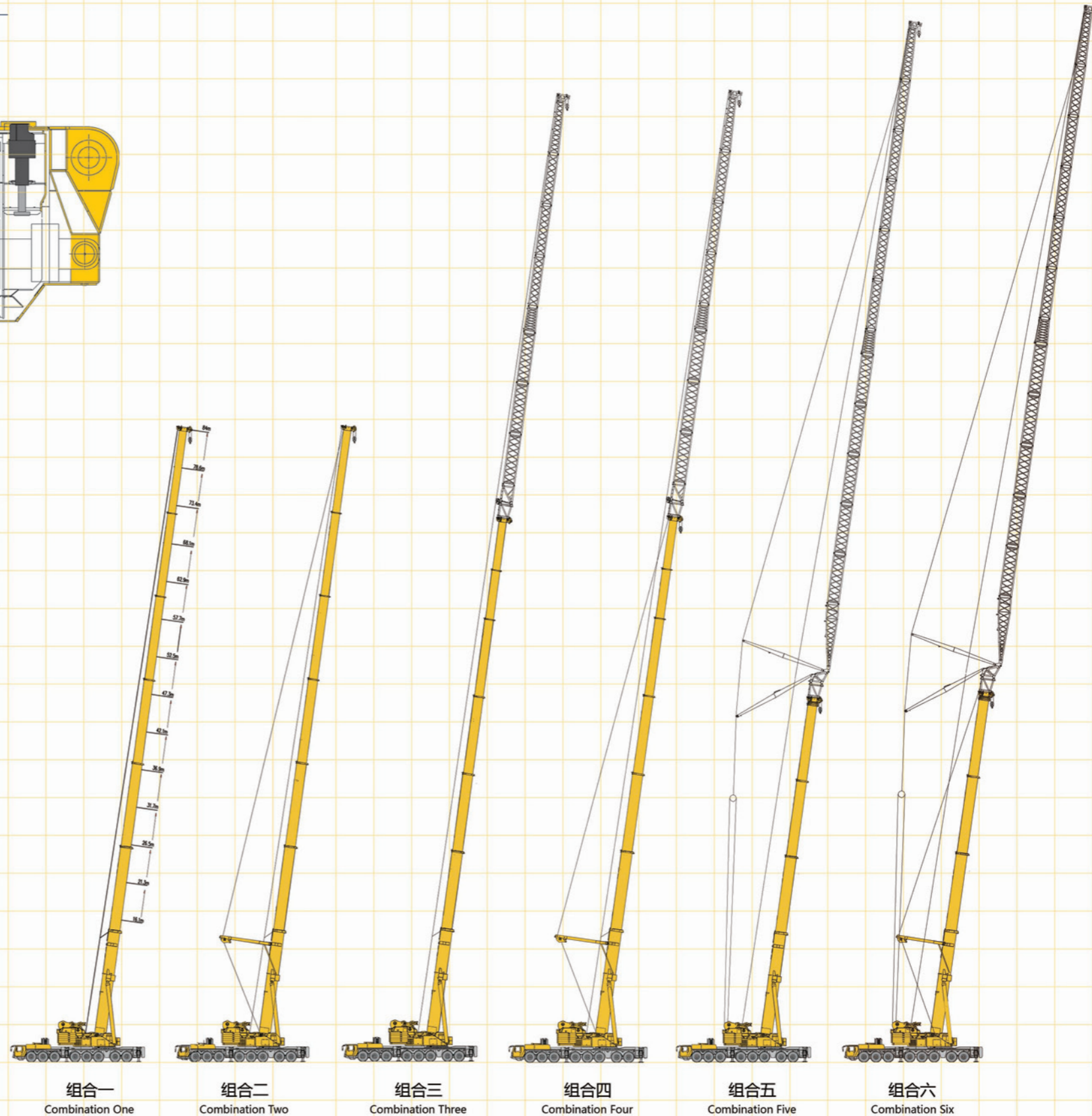
- 拓展了作业空间，作业幅度增加10-25米，起升高度增加30-50米。
- 组合臂架比主臂性能提高40-50%。
- Operating space is expanded, the working radius is increased 10~25m and the lifting height is increased 30~50m.
- The lifting capacity of boom combination is improved 40~50% compared to the boom's.



作业幅度拓展
The working radius is increased

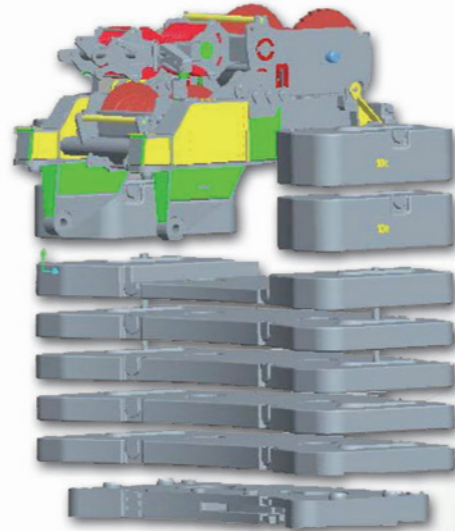
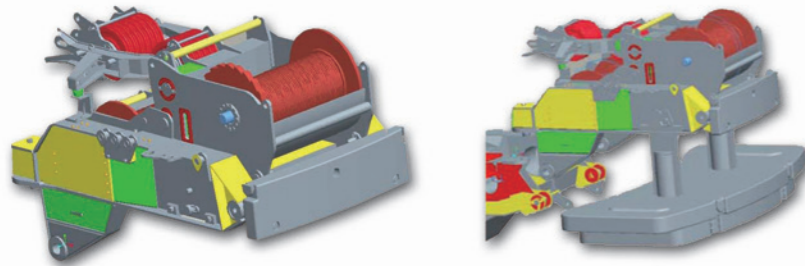


作业高度拓展
The lifting height is increased



■ 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，包含180吨、160吨、140吨、120吨、100吨、80吨、60吨、40吨，应用范围广泛。
- 配重是由配重支架（20吨）和配重底板（20吨），20吨配重块5块，10吨配重块4块组成。
- 配重支架为模块化组件，由基本支架和四个卷扬组成，结构紧凑，便于运输。
- Self-assembled technology of counterweight researched & developed by ourselves, including 180t, 160t, 140t, 120t, 100t, 80t, 60t and 40t counterweights, has wide application ranges.
- Counterweight consists of counterweight support (20t), bottom plate (20t), five slabs of 20t, four slabs of 10t.
- Counterweight support is modular modules, consisting of basic support and four winches, compact structure is easy for transportation.



■ 专用分析软件结构优化设计 · Special analyzing soft, structure optimized design

- 优化的薄臂大箱形结构，抗弯、抗扭能力强。
- 采用进口高强度板材，自重小、性能优。
- 采用等强度梁设计理念，异种板厚对接方式，支腿强度高、刚度大、抗扭转能力强。
- 活动支腿采用内藏式侧面搭接技术，满足横向大跨距，增大支腿搭接长度。
- Optimized thin boom box structure contributes to strong torsional capacity and buckling resistance.
- Made of high tensile imported steel, lighter dead weight and stronger capacity optimized frame structure.
- Design concept of equal strength beam and joining way of steel plates with different thicknesses make outrigger higher strength, rigidity and torsional capacity.
- Built-in side overlapping technology applied in outrigger beams increases outrigger span.



■ 新型制动技术 · New brake technology

- 采用行车制动+驻车制动+辅助制动结合的制动系统。
- 行车制动采用双回路系统，两回路各自独立，确保制动的有效性。
- 配备ABS防抱死制动系统，保证车辆获得最好制动稳定性和方向操纵性。
- 辅助制动为发动机缓速制动和排气制动，并通过制动综合管理提高制动系统的安全性和舒适性。
- 制动柔和平稳，无冲击感，体验全新制动感受。
- The brake system consists of service brake, parking brake and auxiliary brake.
- Service brake adopts independent dual circuit system for brake effectiveness.
- ABS equipped ensures the best brake stability and direction control ability.
- Auxiliary brake includes engine retarder brake and transmission retarder brake. Safety and comfort in brake system are improved by brake comprehensive management.
- Smooth brake, no impact feeling, completely new brake is experienced.

■ 油气悬架技术 · Hydro-pneumatic suspension technology

- 可实现车辆的上升、下降、手动及自动调平、弹性与刚性转换，使车辆能够轻松通过涵洞、桥梁等限高场所。
- 缓和冲击载荷，起到衰减振动的作用，保证车辆具有良好的行驶平顺性和通过性，提高了乘坐舒适性。
- 双纵臂导向，约束轴的运动轨迹。
- 实现车辆的操纵稳定性，上车始终保持平稳。
- Vehicle up and down movement, manual and automatic leveling, switch-over of flexible and rigid suspension may be realized with it, so the vehicle may freely pass culvert, bridge and low underpasses.
- Shock load may be buffered, taking the role of damping vibration, therefore, driving smoothness and pass ability are available, and driver's comfort is improved.
- Imported transfer box with high/low speed, ports of differential and PTO.
- Dual longitudinal push rods are to confine the path of axle motion.
- Vehicle operation stability is ensured, and superstructure smoothness is kept.

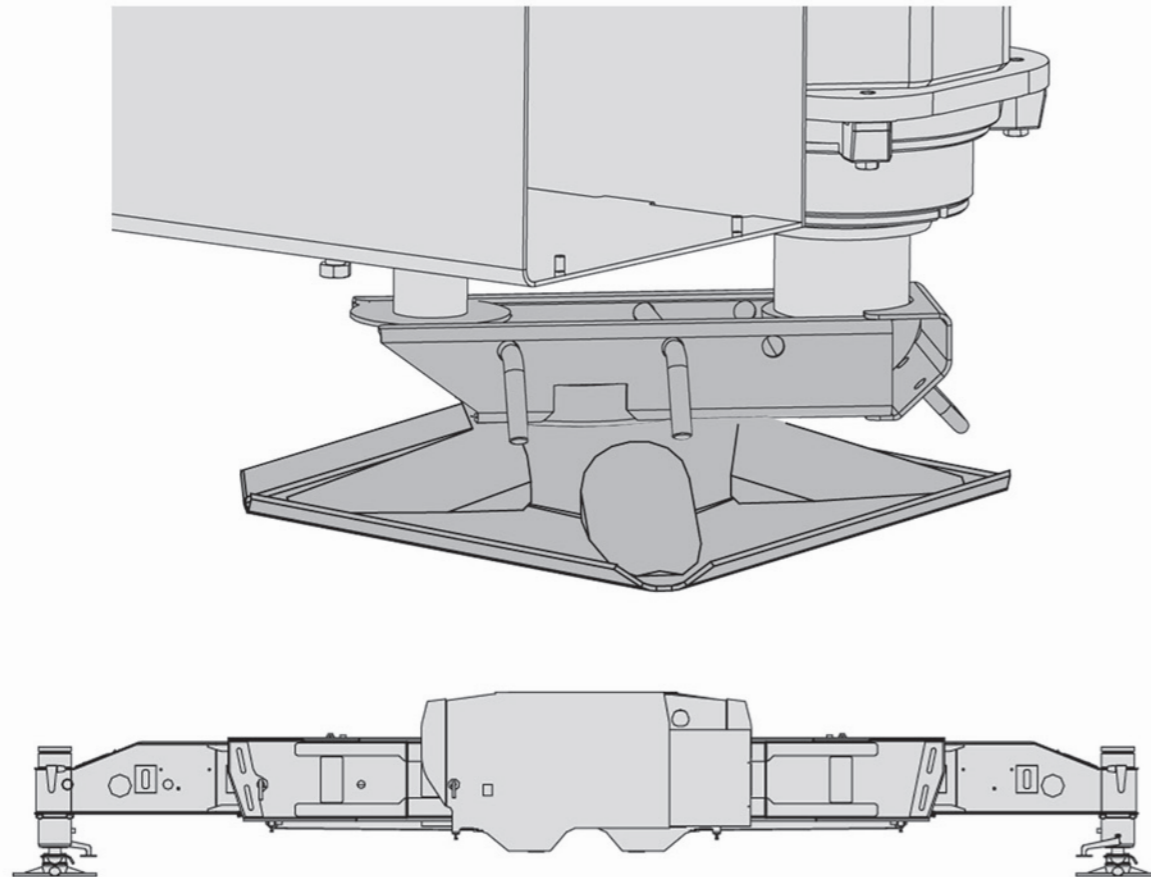


全方位人性化设计

Overall ergonomic design

起重机支腿操作 OUTRIGGER OPERATION

- 不同的支撑位置
支腿完全缩回
半伸位置：6.25m×10.123m
全伸位置：9.6m×10.123m
- 支脚盘固定安装，由防护罩保护。
- 支腿水平调整，仅需通过一个按钮即可自动将起重机调至水平状态。
- 底盘两侧都有支腿控制面板，具有形象识别的键盘、电子水平仪、以及“发动机启动、停止”按钮和速度控制键，均可发光显示并可锁定。
- 支腿的操作过程严格按照程序设定，防止事故发生。
- 由四个工作灯向支腿区域提供照明。
- Various supporting positions
Outriggers are retracted fully
Half-extended outrigger span: 6.25m×10.123m
Fully-extended outrigger span: 9.6m×10.123m
- Outrigger floats are fixed permanently and protected by protective covers.
- The vehicle may be leveled automatically only by pressing a button.
- On both sides of carrier there is an outrigger control console individually, on which there are a key board and an electronic level gauge. Engine start and stop buttons as well as speed control keys with pictograms on the key board are indicated luminously and deactivated by an enable switch.
- Outrigger operating procedure is set strictly according to programs to prevent accident occurring.
- There are four working lamps for supplying illumination to outrigger area.



舒适的上车操纵室 COMFORTABLE OPERATOR'S CAB

- 大圆弧操纵室，四周装有有色玻璃，前窗和天窗配有雨刮器和清洗器。
- 操纵杆扶手一体化设计，控制面板按人机工程学设计。
- 运输时将其置于起重机正后方，作业时置于转台的侧面。
- 操纵室配置冷暖空调，营造舒适环境。
- Streamlined operator's cab, tinted panes all around, wiper and washer are equipped on both windshield and roof window.
- Armrest integrated with control levers, and control console designed ergonomically.
- It can be located over rear during transportation other than the side of turntable during operation.
- Heater and air conditioner contribute to comfortable circumstance.

舒适的下车驾驶室 COMFORTABLE DRIVER'S CAB

- 采用新型外观结构驾驶室，结构上采用气缸悬挂，降低车辆振动对驾驶员的影响。
- 采用空气悬浮座椅，可多方位调整并配备安全带，提高驾乘舒适性。
- 电动后视镜、电动门窗提高操作的舒适性。
- 操作和显示元件的放置位置符合人机工程学原理，保证连续使用时操作的简便性和舒适性。
- 方向盘的高度和角度均可调。
- 反光镜可加热、并可电动调节。
- 3套自动清洗装置和间歇控制功能的雨刮器。
- New appearance driver's cab, and air cylinder suspension structure is used to reduce vibration effect to driver.
- Air cushioned seat is adjustable at multi-direction, with safety belt equipped, driving comfort is improved.
- Electric exterior mirrors, doors and windows improve the comfort of operation.
- Ergonomic location of operating elements and indicators ensures simplification and comfort during continuous operation.
- Steering wheel adjustable in height and inclination.
- Heatable and electrically adjustable exterior mirrors.
- Three sets of automatic washer and intermittent wiper are available.

QAY500 徐工集团全地面起重机 XCMG ALL TERRAIN CRANE



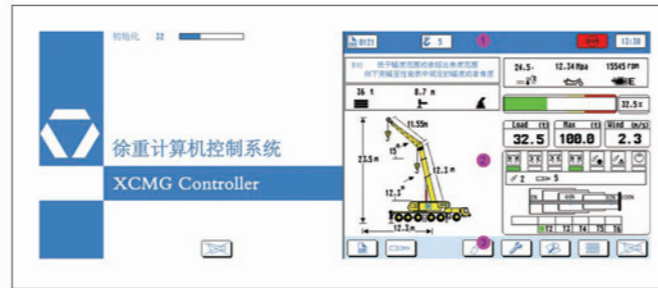
智能化操控系统 Intelligent control system

徐重专有控制系统 XCMG UNIQUE CONTROL SYSTEM

- 标准应用程序：力矩限制器功能、主显示画面程序、工况选择程序、性能浏览程序等。
- 方便的互动式工况设置。
- 工况的调整可以实时显示，直观、方便。
- 力矩过载或其它危险动作，控制程序自动进行限制。
- 精确的手柄调节功能，使操作平稳、高效。
- Standard application programs for: load moment indication function, main display, working condition selection and performance browse etc.
- Convenient interactive working condition setting.
- Real-time indication of adjustment for working condition, visual and convenient.
- Moment overloading and other dangerous movements may be limited automatically by control program.
- Accurate adjusting function of lever makes operation smooth and efficient.

辅助伸缩臂系统 TELESCOPING BOOM CONTROL SYSTEM

- 通过直观的显示界面实时检测伸缩过程。
- 可自由选择自动、手动伸缩模式，高效、便捷。
- 具有自动伸缩功能，操作简单。
- 可以方便进行参数的校正。
- The testing of boom telescoping process is indicated by visual display interface.
- Manual and automatic telescoping modes may be selected freely, high efficient and convenient.
- Automatic telescoping function is available, easy to operate.
- Parameters may be calibrated easily.



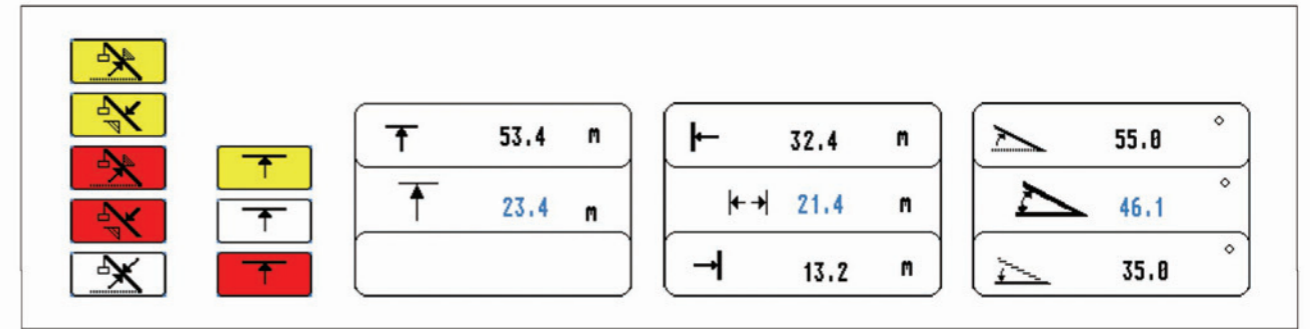
工况	力矩限制器	主显示画面	性能浏览
8.7	80t 000001	80t 12 000020	80t 28 000040
	68t 000002	68t 12 000021	68t 28 000041
	47t 000003	47t 12 000022	47t 28 000042
	35t 000004	35t 12 000023	35t 28 000043
	23t 000005	80t 20 000030	80t 36 000050
	0t 000006	68t 20 000031	68t 36 000051
	80t 000011	47t 20 000032	47t 36 000052
	68t 000012	35t 20 000033	35t 36 000053
	47t 000013		
	35t 000014		
	23t 000015		
	0t 000016		

若伸缩组合为空，则代表适合该臂长的所有组合！
If Tele-con is empty, suitable for every Tele-con of this boom length!

注意：该性能表仅供参考，实际的数据以厂家提供的为准！
Attention: The loadchart is just for your reference, Please use the actual data sheet offered by XZZX.

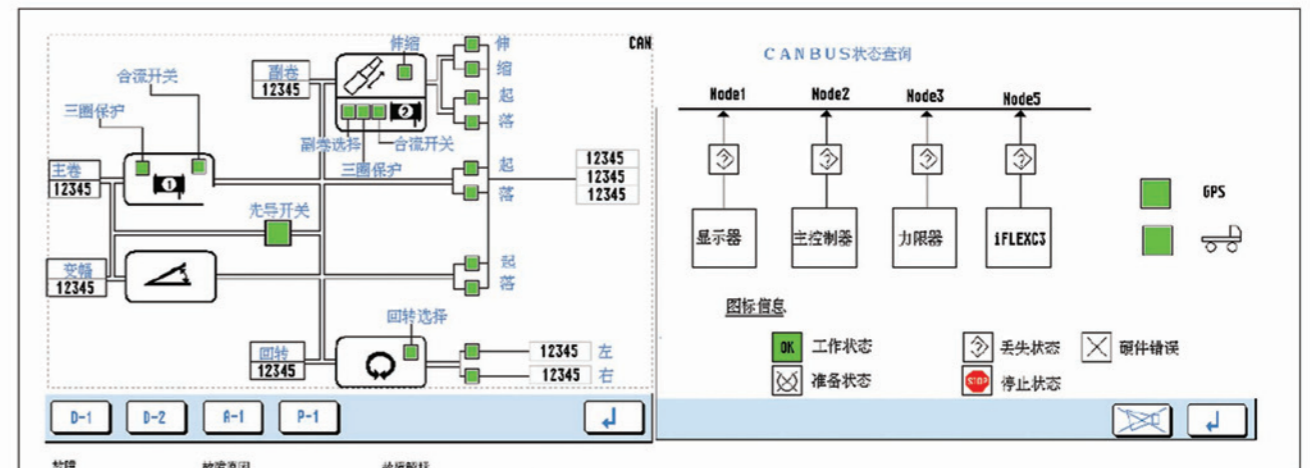
虚拟墙系统 VIRTUAL WALL SYSTEM

- 针对具体工作区域进行限制，方便、安全。
- 滑轮头的起升高度限制
- 工作半径限制
- 回转角度限制
- 边界限制
- Convenient and safe, it is aimed to limit
- The lifting height of pulley head
- Working radius
- Slewing angle
- Boundary

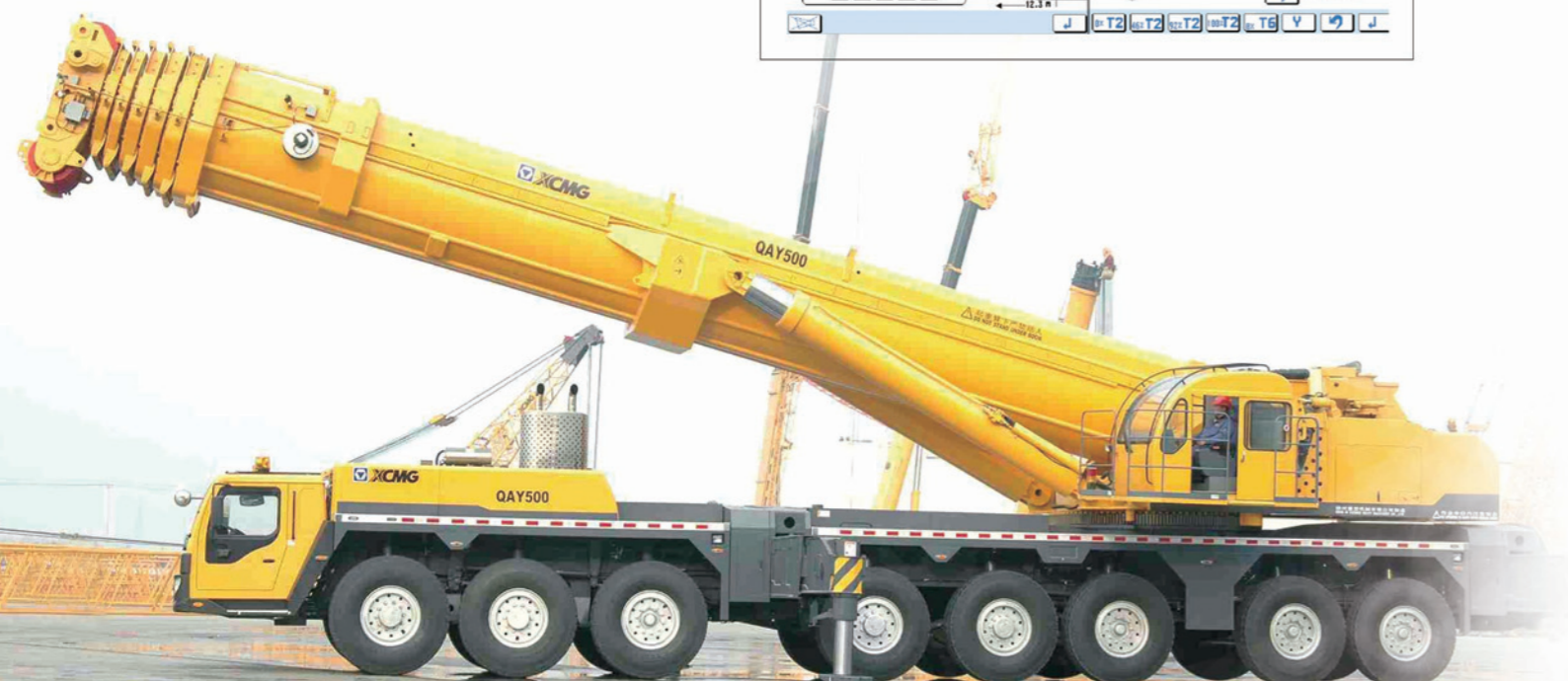


完善的故障诊断及实时检测功能 PERFECT FAULT DIAGNOSE AND REAL-TIME TESTING FUNCTION

- 维修人员可以方便快捷的通过自诊断系统寻找故障点，并由通过故障提示排除故障。
- 将操作过程直观的显示在界面上，用户可以方便的进行查询。
- 将各主要器件的参数直接显示，操作人员可以观察整个系统的输入及输出。
- Fault may be found quickly through the diagnose system, and be removed by indication.
- Operating process is indicated directly on the interface, and inquiry is able to be done.
- Parameters of main parts are displayed directly, and the input and output of whole system may be observed by operator.

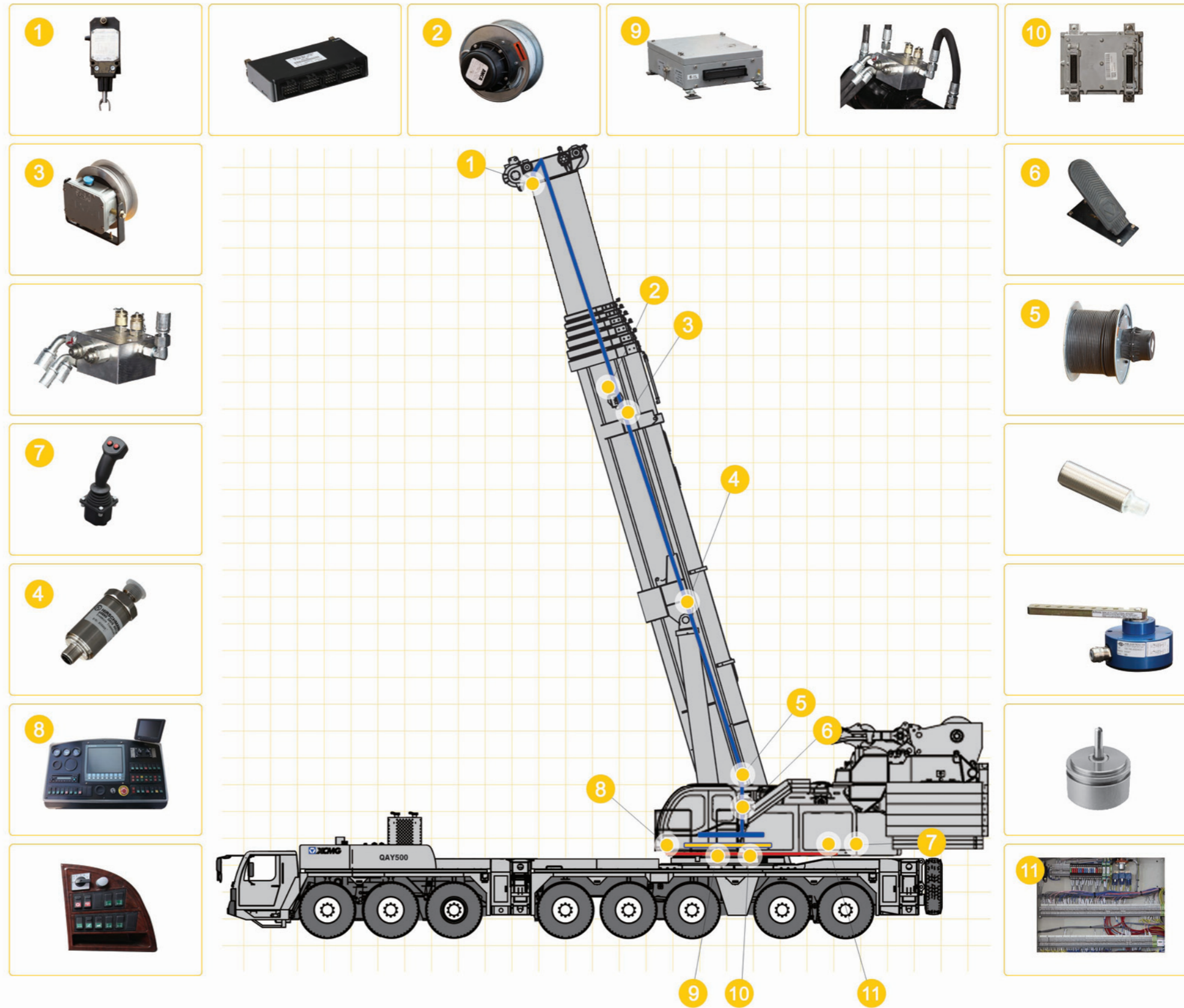


故障代码	故障原因	故障解释
R01	工作幅度大小或臂角过大，超出额定范围。	臂角超出额定范围。
R02	工作幅度大小或臂角过小，超出额定范围。	臂角超出额定范围。
R03	臂角不在额定范围内。	臂角超出额定范围。
R04	工况不在额定范围内。	臂角超出额定范围。
R05	臂角超出额定范围。	臂角超出额定范围。
R06	臂角超出额定范围。	臂角超出额定范围。



功能强大、高效的CAN总线技术
POWERFUL AND HIGH EFFICIENT CANBUS TECHNOLOGY

- 控制器之间采用总线连接，减少接口，提高了可靠性。
- 总线型元器件可由控制节点进行诊断，快速、准确的判断故障。
- 实时采集发动机数据并作出调整，提高整机性能。
- 标准的总线技术具有极大的扩展空间，并提高整机效率。
- CANbus is used between controllers, interface decrement improves reliability.
- CANbus components may be diagnosed by control nodes, fault may be judged quickly and accurately.
- Real-time collection of engine data and subsequent regulation improve whole machine performance.
- Standard CANbus technology has extensive space to improve entire machine efficiency.



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