



### 椭圆形单缸插销式全自动伸缩吊臂

Automatically telescopic boom with oval profile and single cylinder & pinning system

### 高智能化的控制系统

Highly intelligent control system

采用 PLC 集成控制的电比例操作系统，在系统中运用了先进的 CAN-BUS 数据总线技术，所有起重机的关键电子元件，如长度传感器、角度传感器、位置传感器及控制手柄等元件的电子信号通过 CAN-BUS 总线传输给计算机加以集中处理，通过显示屏提供起重作业的全部信息参数，显示起重机的工作状态和工作过程，实现起重机的自动控制，让起重机的所有操作变得更加简单方便，大大提高起重机的作业安全性、可靠性和作业效率，大大降低了操作人员的劳动强度，充分体现了以人为本的设计理念。具备黑匣子功能，计算机能有效地实时监测和记录有关作业状态参数，以便故障的分析和处理。

液压系统为电比例控制的泵控变量系统，带分功率调节和极限负载调节，与计算机集成控制系统紧密结合，大大提高起重机的控制性能。微动性能好，动作平稳，安全可靠。Black box functions contribute crane work conditions real-time registered and monitored by computer in order to analyze and deal with faults. Hydraulic system is electro-proportional pump controlled variable displacement system, with partial output regulation and load extreme-limit adjustment, combined with computer integrated control system, greatly improved crane control performance with good fine motion control, smooth, safety and reliability.

### 运用先进的 PRO/E 三维设计、ANSYS 有限元结构分析软件优化设计

Designed with advanced software Pro/E and optimized with ANSYS F.E.M.

采用 Ansys 软件对吊臂结构进行分析，各节臂的板厚和局部加强板通过 Ansys 分析结果进行优化，经过优化设计，吊臂重量减轻 30%，性能显著提升。

Boom structure analyzed with Ansys, each boom section plate thickness and partial reinforcement optimized to reduce 30% boom dead weight and improve lifting performance.

### 配重多种组合模式，满足 400 多种工况的需求

Multiple work modes combined to meet the needs of 400 work modes

### 越野性能卓越的底盘系统 强劲、高效的动力系统

Off-road crane chassis, powerful and efficient drive train

# 椭圆形单缸插销式全自动伸缩吊臂

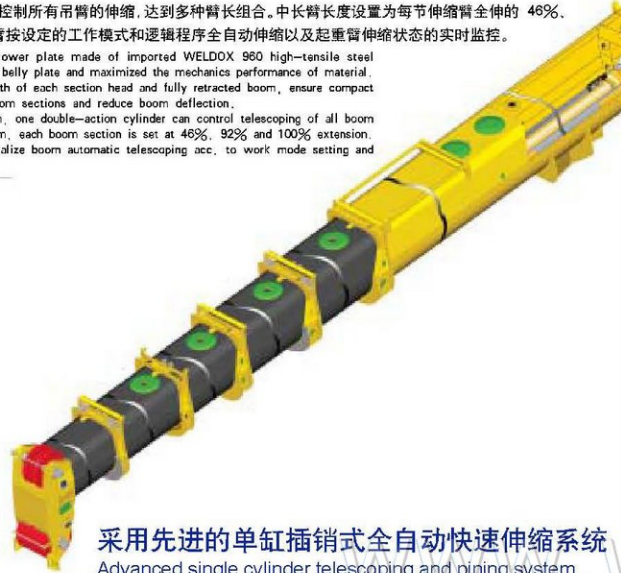
Automatically telescopic boom with oviform profile and single cylinder & pinning system

经优化设计的上薄下厚的“U”形截面，采用 WELDOX960 进口高强度钢板，极大地提高了起重臂的抗扭曲能力，也大大增强了下底板和腹板的抗局部失稳的能力，能最大限度地发挥材料的力学性能。优化设计各节臂接头结构，采用嵌入式滑块，减小了各节臂接头和全伸缩臂长度尺寸，保证整车外形紧凑，同时增大了全伸缩时臂节间的搭接长度，减小吊臂挠度。

采用单缸插销式全自动快速伸缩系统，一个双作用油缸可以控制所有吊臂的伸缩，达到多种臂长组合。中长臂长度设置为每节伸缩臂全伸的 46%、92% 和 100%。通过显示屏信息提示进行人机对话，实现起重臂按设定的工作模式和逻辑程序全自动伸缩以及起重臂伸缩状态的实时监控。

Optimized 'U'-shaped profile with thin upper plate and thick lower plate made of imported WELDOX 960 high-tensile steel maximized boom strength, strengthened partial stability of bottom plate and belly plate and maximized the mechanics performance of material. Optimized each boom section head used built-in slide pads reduce the length of each section head and fully retracted boom, ensure compact overall dimension, and also increase the joint length of fully extended boom sections and reduce boom deflection.

Automatically telescopic boom with single cylinder and pinning system, one double-action cylinder can control telescoping of all boom sections to realize various boom length combination. For mid-extended boom, each boom section is set at 46%, 92% and 100% extension. The man-machine interaction through information hint on display screen realize boom automatic telescoping acc. to work mode setting and logic program as well as real-time monitoring of boom telescoping.



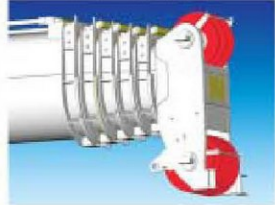
采用先进的单缸插销式全自动快速伸缩系统  
Advanced single cylinder telescoping and pinning system



◆ 嵌入式滑块  
Built-in slide pad



◆ 吊臂对中装置  
Boom sections aligning device

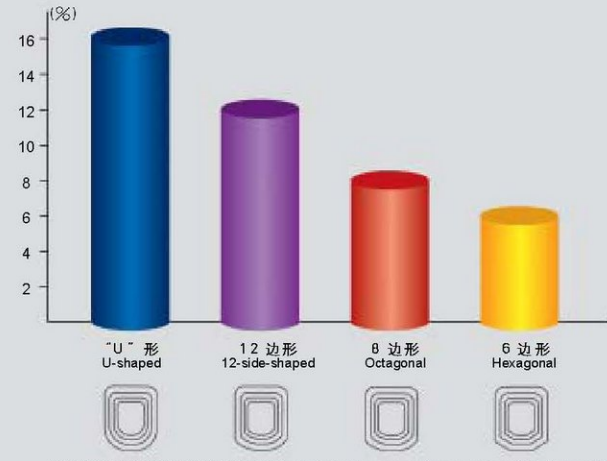


◆ 结构紧凑的臂头  
Compact boom head



◆ 单缸插销伸缩机构  
Single cylinder telescoping and pinning system

◆ 截面优化显著地提高起重性能  
Optimized cross-section remarkably improve lifting capacity  
性能提高率 Performance improving rate



不同截面形状的起重性能对比 Lifting performance comparison among variable boom profiles



可靠高效的伸缩机构 Reliable and high efficient telescoping boom



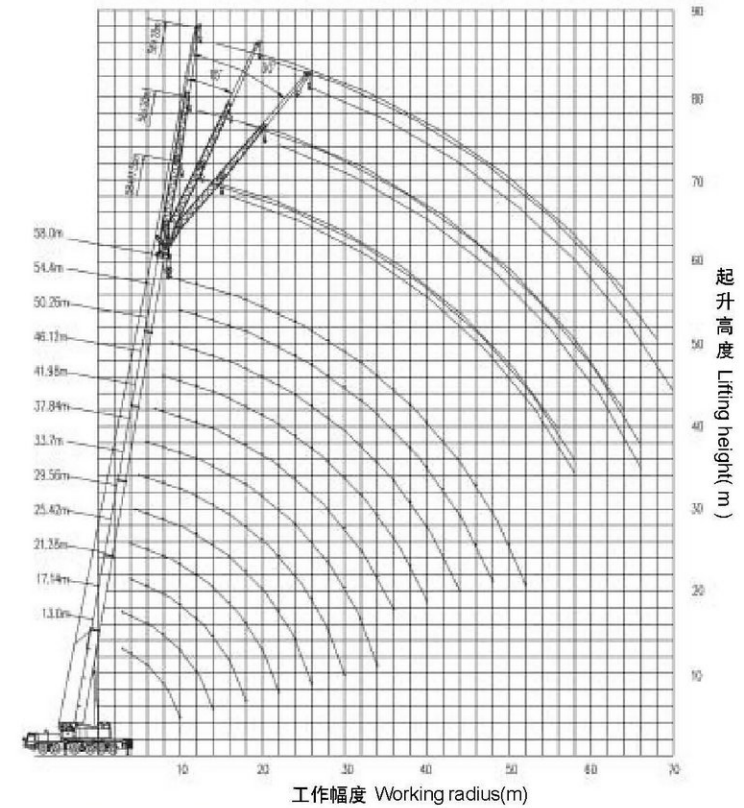
◆ 双独立起升机构  
Two independently-operated winches

◆ PAT 收线器  
PAT cord reel

QY130K TRUCK CRANE

# 多种组合模式，满足400多种工况的需求

Multiple work modes combined to meet the needs of 400 work modes

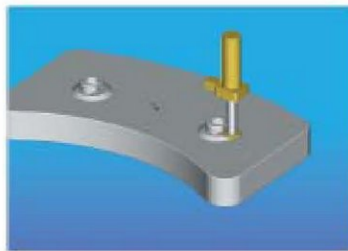


起升高度曲线图  
Lifting Height Curves

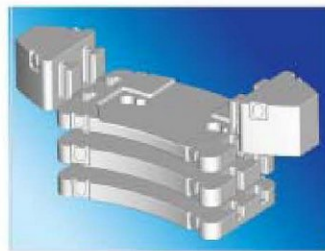
## QY130K TRUCK CRANE



◆ 平衡尾部为弧形结构，尽可能缩小了回转作业空间  
Curved counterweight tail reduced swing area



◆ 平衡重自装卸  
Self-assembly of counterweight



◆ 组合式平衡重  
Combined counterweight



◆ 平衡重遥控器  
Counterweight remote controller

六节伸缩主臂，最大伸缩长度58m，36种臂长伸缩组合方式，0、10、20、27、38等5种平衡重组合方式，配合全伸和半伸2种支腿方式，又能变幻出400多种吊重工况，供用户在不同施工状态选用。

副臂分为基本副臂二节，加长副臂一节；加长副臂和基本副臂一节为桁架结构，基本副臂二节为箱形结构。加长臂接在连接架与基本副臂之间，截面型式为四边形，副臂长度为11.55m、20m、28m；基本副臂行驶状态时置于起重臂右侧。三种可变安装角：0°、15°、30°，最大起重量为15t。

6-section telescopic boom of maximum extension length 58m, 36 types of boom length combination, 5 types of 0t, 10t, 20t, 27t and 38t counterweight combination, with 2 types of outrigger full-extension and mid-extension, can diversify more than 400 work modes for customer choose in different construction conditions.

The jib is divided into 2-section base jib, 1-section jib extension. The jib extension and the 1st section base jib are lattice structure, and the 2nd base jib is box type. The jib extension of 4-side cross-section is fitted between connection bracket and base jib. The jib length is 11.55m, 20m and 28m respectively with 3 kinds of offset angle 0°, 15°, and 30°, and the max. lifting capacity 15t. The base jib is stowed at right side of boom when the crane is in travel.

# 更加精心的人性化设计

Ergonomic and Considerate Design

- ◆ 可翻转式操纵室：视野开阔，特别适用长臂工况作业。运用三维造型技术、人机工程学原理，对整机布局、外观造型、两室的布置进行全新的设计，大大提高了操纵的舒适性和整机的可维修性，体现以人为本的设计思想。
- ◆ 自由滑转的回转机构：回转机构采用了行星齿轮减速器和常闭式制动器，通过马达驱动外啮合回转支承，液压系统设置了缓冲阀，可以实现自由滑转和平稳微动。
- ◆ 副臂摆臂油缸装置及副臂自升起装置：拆装方便，不需任何辅助吊车。
- ◆ Operator's cab tilted backwards: it has better sight of view especially suitable for lifting operation with long boom length. The overall vehicle layout, outline and two cabs are newly designed with 3D modular and ergonomic principle, which greatly improve the comfort and maintenance for the whole machine.
- ◆ Controllable free-swung for swing drive unit: swing drive unit uses planetary gear reducer and constant-closed brake driven by motor meshed with outer coupling slewing ring. A damping valve is fitted in the hydraulic system for free-swung and smooth fine motion control.



◆ 副臂摆臂油缸装置 Jib luffing cylinder



◆ 副臂自升起装置 Jib self-erector



## QY130K TRUCK CRANE



◆ 采用特种复合材料的流线型操纵室，可向上调节 20°  
Streamlined cab made of compound material can be tilted backwards 20°



◆ 方便舒适的驾驶环境  
Convenient and comfortable drive environment



◆ 自动润滑装置  
Centralized lubrication device



◆ 倒车视野拓展装置  
Back-up device with large sight view

### 舒适的工程机械专用驾驶室 Comfortable driver's cab for construction machinery

- ◆ 设计合理的内饰，良好的隔音效果
- ◆ 可调式驾驶员减震座椅
- ◆ 可调式方向盘
- ◆ 电控自动升降玻璃
- ◆ 可自动除霜
- ◆ 内设 CD 机
- ◆ Reasonable internal decoration, good sound isolation
- ◆ Adjustable and vibration-proof driver's seat
- ◆ Adjustable steering wheel
- ◆ Electrical side window glass lifter
- ◆ Automatic defrosting
- ◆ CD player

### 新型的操纵室 New type operator's cabin

- ◆ 流线型整体复合材料壳体
- ◆ 大圆弧整体式前视窗，清除视觉死角
- ◆ 可调式操作员座椅
- ◆ 先导手柄轻轻一推，各项作业轻松完成
- ◆ Integrated and streamlined cab body made of compound material.
- ◆ Curved and integrated front window, free of dead space of view.
- ◆ Adjustable operator's seat.
- ◆ Implement complete operation by softly touching the pilot handle



◆ 座椅（可调整）  
Seat (adjustable)

# 越野性能卓越的底盘及动力系统

Off-road crane carrier and powerful drive



◆ 上车沃尔沃发动机  
VOLVO engine for crane superstructure



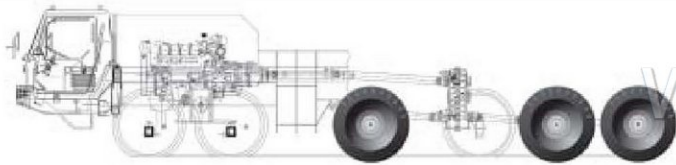
◆ 奔驰欧 III 型电喷发动机  
Benz Euro III engine for crane carrier

## 动力系统 Drive power

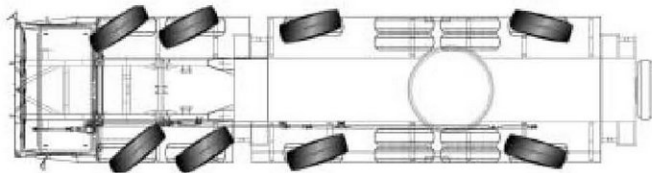
上车采用独立的动力系统，选用 VOLVO 最新型的水冷涡轮增压发动机，具有低速、大功率、大扭矩、机件磨损小、工作效率高等优点，发动机功率输出是通过计算机集成控制系统和 CAN-BUS 数据总线系统，据吊臂载荷变化进行自动优化功率输出，使发动机功率损耗降到最低，节省能源。下车采用奔驰公司电喷发动机，排放可达欧 III 标准，性能先进，功率强大。

Independent power system for crane superstructure, new type VOLVO water-cooled and turbocharged diesel engine, low speed, powerful output, strong torque and high working efficiency. Engine output is controlled by the computer integrated control system and CAN-BUS data-line and optimized power output depend on boom load variation, which minimize engine power loss and save energy. The crane carrier uses Benz electronic injection engine with emission acc. to Euro III standard, advanced performance and powerful drive.

# QY130K TRUCK CRANE

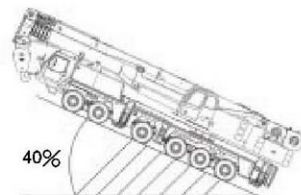
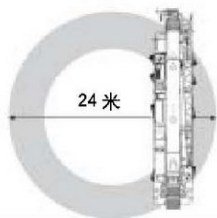


四桥转向 三桥驱动 4-axle steering and 3-axle drive



底盘为六轴专用底盘，12×6 驱动（3、5、6 轴驱动），12×8 转向（1、2、3、6 轴转向），转弯半径小，最小转弯直径小于 24m，进口 ZF 自动换挡变速箱及分动箱，德国进口驱动桥，越野性能强大。

The crane carrier is 6-axle special crane chassis, drive type 12×6 (axle 3rd, 5th and 6th for drive), steering type 12×8 (axle 1st, 2nd, 3rd and 6th for steering), little turning radius, minimum turning diameter less than 24m, imported ZF automatic shifting transmission and transfer case and imported German drive axle, powerful off-road travel performance.



## 起重机行驶状态主要技术参数表

Main Technical Data in Travel State

类别 Category	项目 Item	单位 Unit	参数 Parameters	
尺寸参数 Outline Dimensions	整机尺寸(长×宽×高) (L×W×H)	mm	14950×3000×3950	
	轴距 Wheel space	第一、二 1st, 2nd axle	mm	1420
		第二、三 2nd, 3rd axle	mm	2420
		第三、四 3rd, 4th axle	mm	1875
		第四、五 4th, 5th axle	mm	1350
		第五、六 5th, 6th axle	mm	1400
轮距 Track	mm	2610/2307		
重量参数 Weight	行驶状态整机自重 Dead weight in travel state	kg	62000	
	轴荷 Axle load	一 / 二轴 1st, 2nd axle	kg	8800/8800
		三 / 四轴 3rd, 4th axle	kg	9200/12700
		五 / 六轴 5th, 6th axle	kg	12700/9800
动力参数 Power	上车发动机	额定功率 Engine rated output	kw/(r/min)	162/2100
		额定扭矩 Engine rated torque	N.m/(r/min)	854/1400
		额定转速 Max. travel speed	r/min	2100
	下车发动机	额定功率 Engine rated output	kw/(r/min)	390/1800
		额定扭矩 Engine rated torque	N.m/(r/min)	2400/1080
		额定转速 Max. travel speed	r/min	2000
行驶参数 Travel Performance	行驶速度 Travel speed	最高行驶速度 Max. travel speed	km/h	70
		最低稳定行驶速度	km/h	2.1
	最小转弯直径 Min. turning diameter	m	24	
	最小离地间隙 Min. ground clearance	mm	275	
	接近角 / 离去角 Approach angle/Departure angle	°	23/14	
	最大爬坡度 Max. grade ability	%	40	
百公里油耗 Fuel consumption of 100km	l	80		

## 起重机作业状态主要技术参数表

Main Technical Data For Lifting Operation

类别 Category	项目 Item	单位 Unit	参数 Parameters		
主要性能参数 Lifting performance	最大额定总起重量 Max. total rated lifting capacity	t	130		
	最小额定工作幅度 Min. rated working radius	m	3		
	转台尾部回转半径 (平衡重) Turning radius at swing table tail	mm	4600		
	最大起重力矩 Max. load	基本臂 Parameters	kN.m	5003	
		最长主臂 Full-extend boom	kN.m	2090	
	支腿距离 Outrigger span	纵向 Longitudinal distance	m	7.56	
		横向 Lateral distance	m	7.6(5, 2)	
	起升高度 Lifting height	基本臂 Parameters	m	13	
		最长主臂 Full-extend boom	m	58	
		最长主臂 + 副臂 (28m) Full-extend boom+Jib	m	86	
起重臂长度 Boom length	基本臂 Parameters	m	13		
	最长主臂 Full-extend boom	m	58		
	最长主臂 + 副臂 (28m) Full-extend boom+Jib	m	86		
副臂安装角 Jib offset	°	0, 15, 30			
工作速度参数 Working speed	起重臂变幅时间 Boom elevating time	起臂 Boom raising	s	60	
	起重臂伸缩时间 Boom telescoping time	全伸 / 全缩 Full-extending/Retracting	s	420/400	
	最大回转速度 Max. swing speed	r/min	1.8		
	支腿伸缩时间 Outrigger extending and retracting time	水平支腿 Outrigger beam	同时伸 / 缩 Extending/Retracting	s	50/40
		垂直支腿 Outrigger jack	同时伸 / 缩 Extending/Retracting	s	50/45
	起升速度(单绳, 第四层) Hoisting speed(single rope, 4th layer)	主起升机构 Main winch	空载 No load	m/min	115
		副起升机构 Aux. winch	空载 No load	m/min	115

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