



# 100K 130K TRUCK CRANE



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# QY100K/QY130K TRUCK CRANE

## QY100K/QY130K Leading Class-New Era for Hundred-Ton Truck Cranes

Early in 2003, Xuzhou Heavy Machinery Co. Ltd launched the truck crane of 100-tonnage.

Today, QY100K/QY130K Truck Crane, with Pro/E design, produced by precise machines and equipment and through simulation tests for reliability, ranks the first in truck cranes of 100t class.

**Non-faulty manufacture:** using pre-assembly technique of computer simulation for each process ensures the product quality. Now, 100k/130k use computer simulation pre-assembly before production, ensure high work efficiency for the crane.

**Good intelligence:** PLC integrated control system—all electronic signals of key electronic components are processed by computer therefore make crane operation easier and more convenient, working safety, reliability and efficiency are improved greatly.

**Cost energy:** constant power and variable displacement system—combined with integrated controller, automatically adjust system output and pressure based on load variation, precise and smart control of speed.

**Durability:** powerful construction machinery engines—imported Volvo engine for crane superstructure ensures long-time smooth operation, imported Cummins and Benz engine for crane carrier provides powerful and durable drive.

**High efficiency:** 3-axle off-road crane chassis, 100k 3-axes for steering, 130k 4-axes for steering powerful drive easy steering good pass-ability and rapid access to working position.

**Excellent performance:** ovoid profile boom—optimized cross-section minimizes boom weight and maximizes crane lifting capacity.

**More convenience:** all-round and full vision operator's cab—can be tilted backwards 20°, self-assembly of counter weight—various combined counter weight to meet various working requirements. Optional equipments—centralized lubrication unit, jib, single sheave on boom tip, anti-ultraviolet ray glass, radio-cassette recorder, etc.

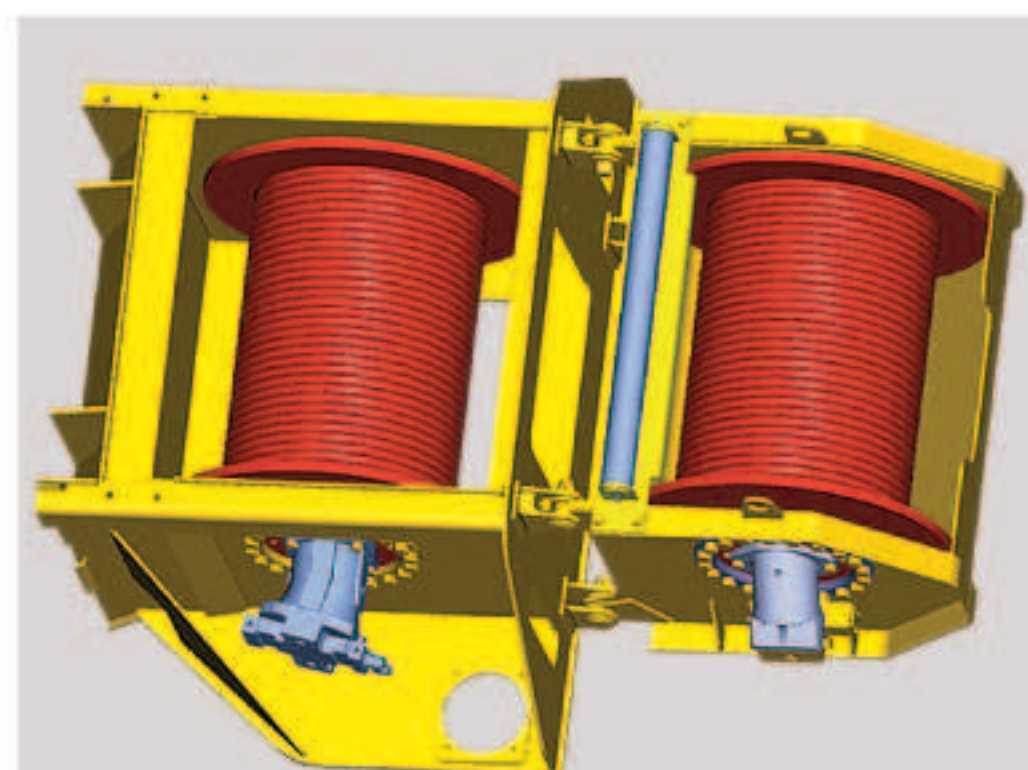


Computer Simulation Of Pre-assembly

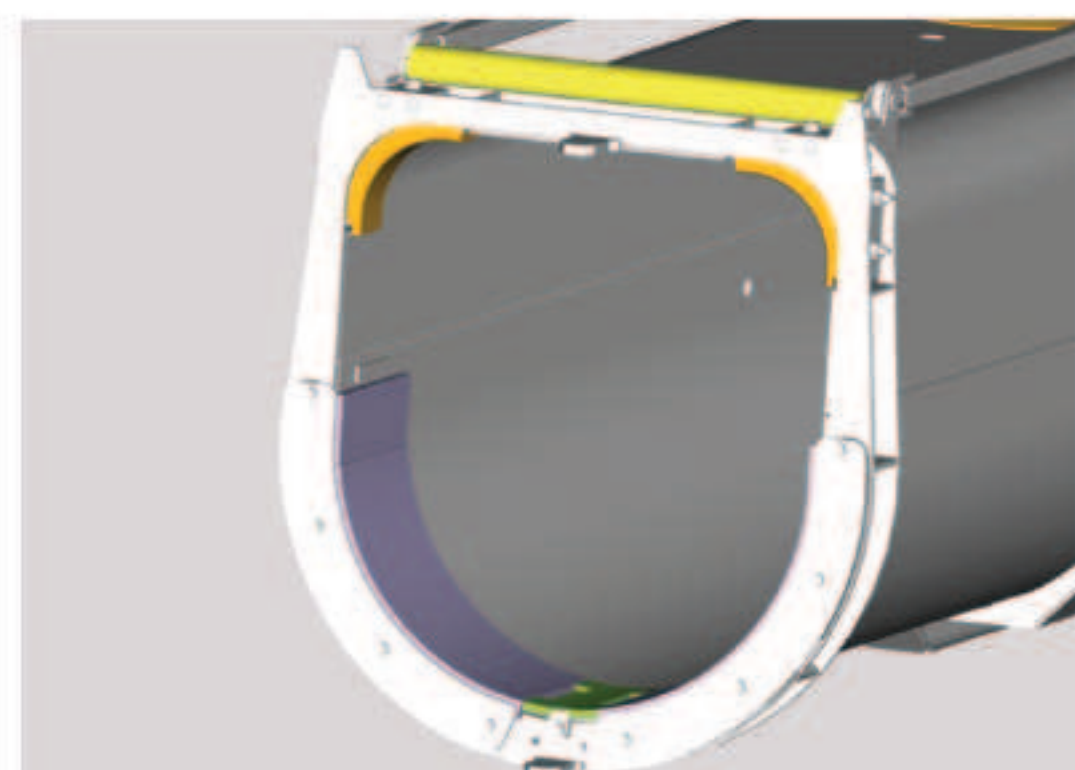


Not just oviform profile boom, every detail becomes perfection.

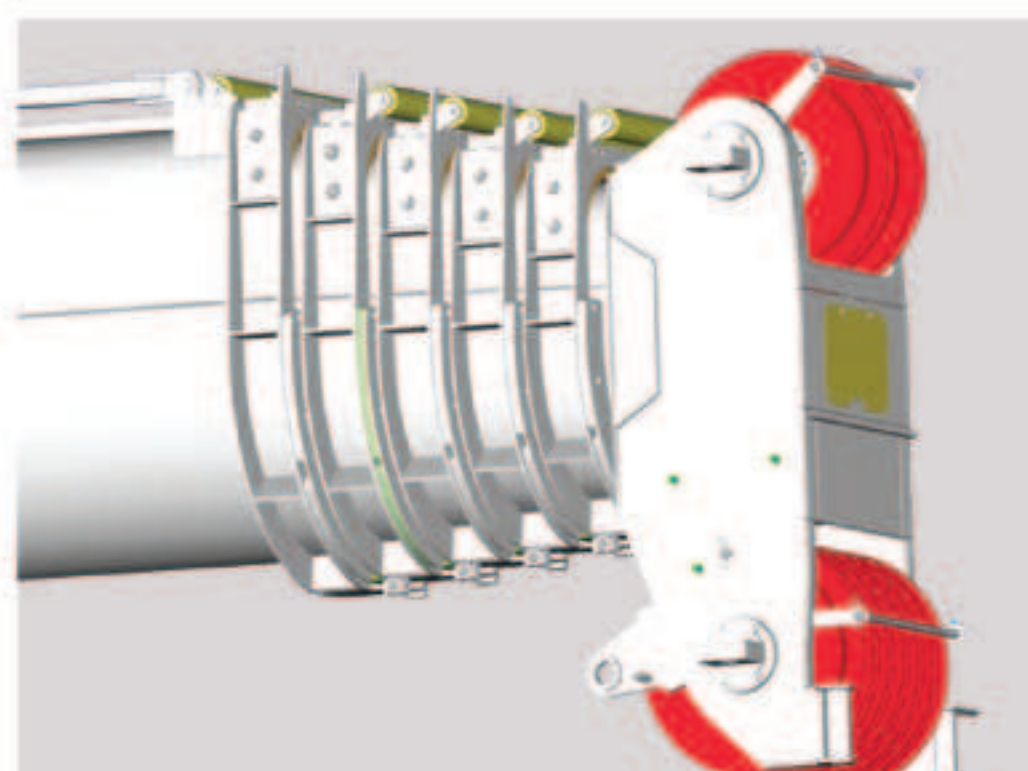
### Optimized and upgraded winch system



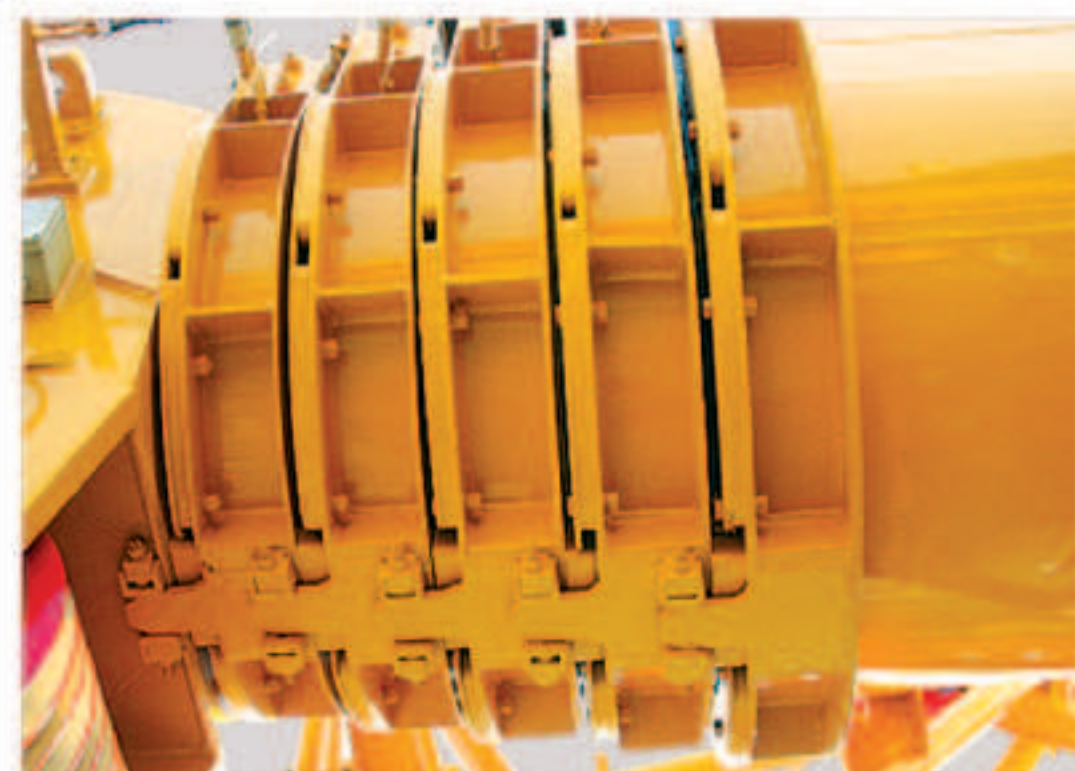
Two independently-operated winches



Built-in slide pad



Compact boom head



Boom sections aligning device



130K Advanced single cylinder telescoping and pinning system for variable boom length.

Performance improving rate (%)

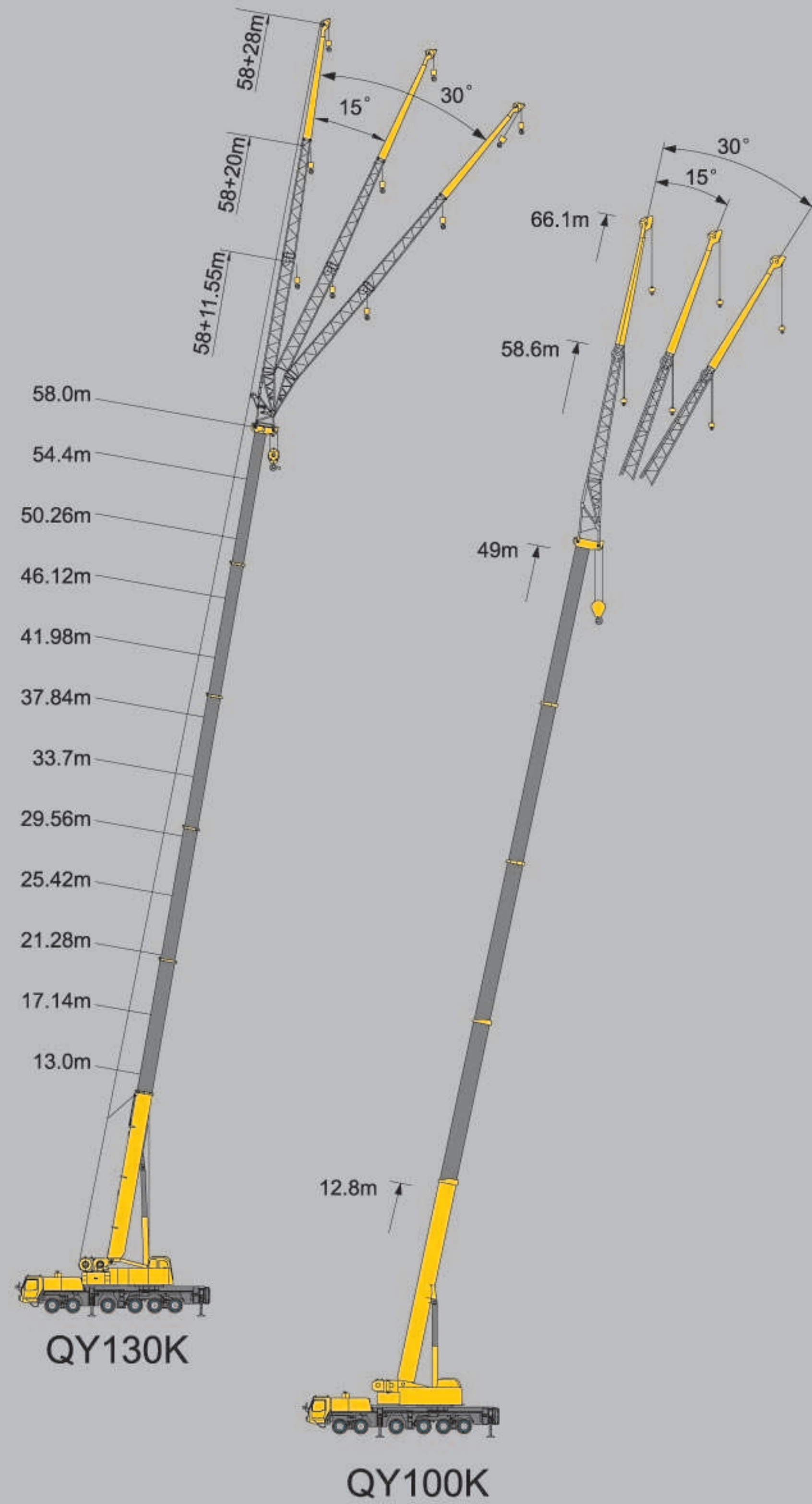
Boom Profile	Performance Improving Rate (%)
U-shaped	16%
Twelve-side-shaped	12%
Octagonal	8%
Hexagonal	4%

Lifting performance comparison among various boom profiles, optimized cross-section remarkably improve lifting capacity.

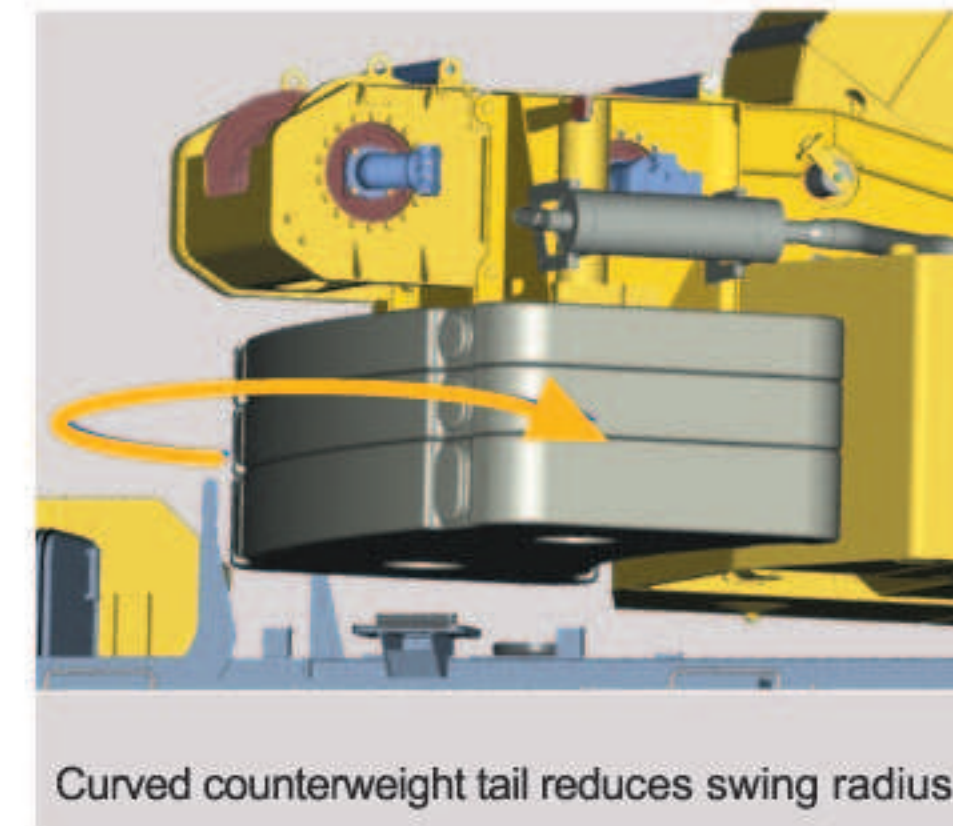
- Optimized oviform profile with thin upper plate and thick lower plate made of imported WELDOX 960 high-tensile steel.
- Maximized boom strength, strengthened partial stability of bottom plate and belly plate.
- Maximized the mechanics performance of material.
- Optimized each boom section head used built-in slide pads.
- 100K ensure compact overall dimension, and also increase the joint length of fully extended boom sections and reduce boom deflection.

Incomparable lifting performance represent on each work mode

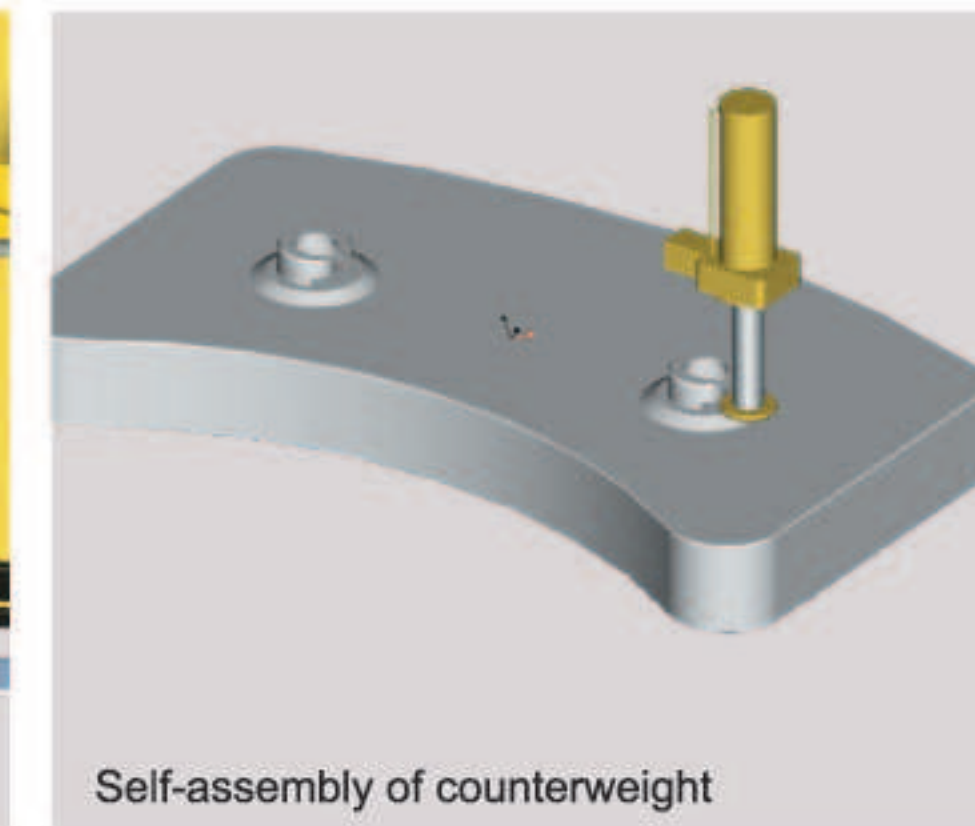
QY130K, 6-section boom, max. boom length up to 58m.  
 QY100K, 5-section boom, max. boom length up to 49m.



Remote control of counterweight



Curved counterweight tail reduces swing radius



Self-assembly of counterweight



Counterweight remote controller



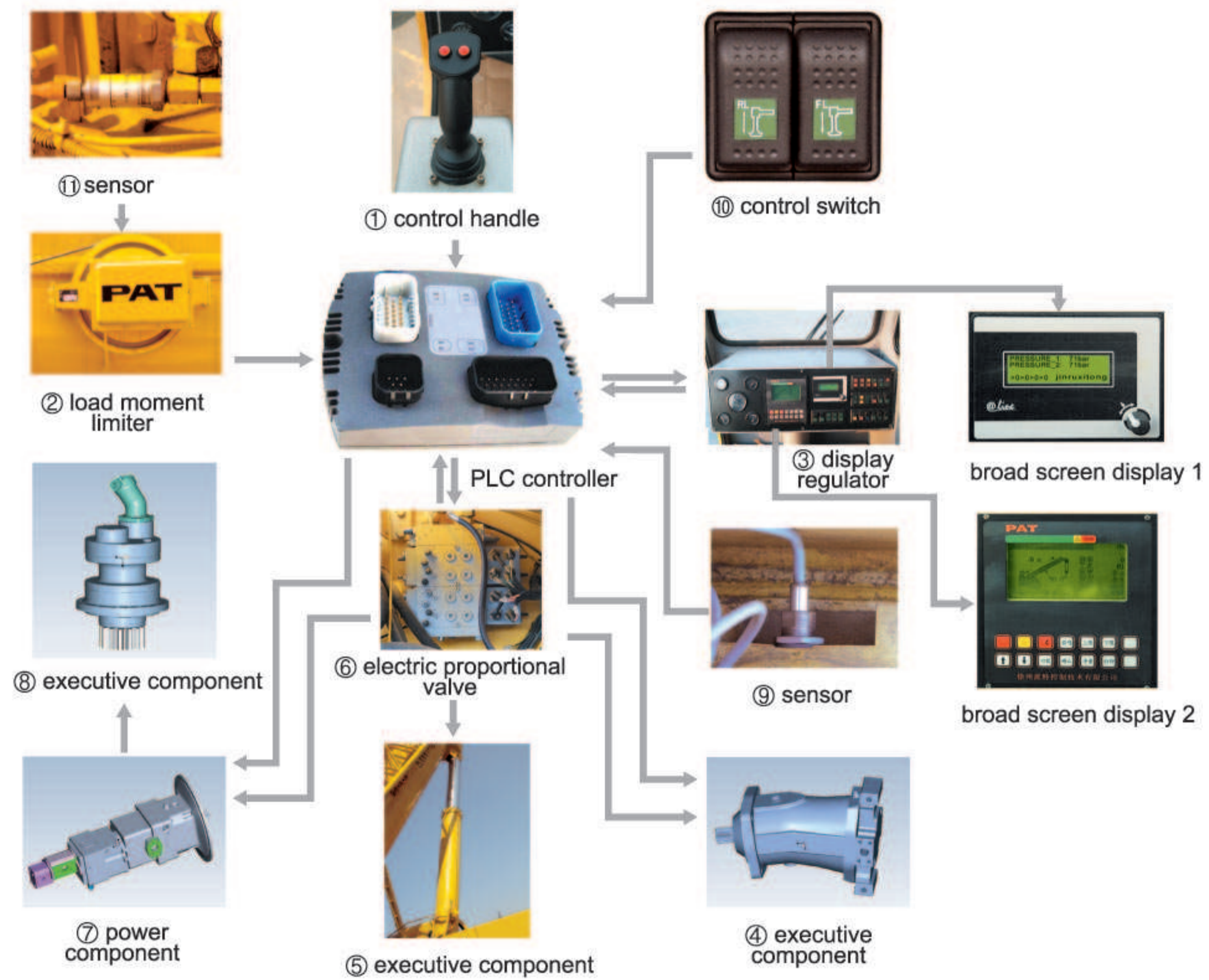
**QY100K**  
 Max. load moment 2734kN.m without counterweight  
 Max. load moment 3058kN.m with 8.3t counterweight  
 Max. load moment 3238kN.m with 14.3t counterweight  
 Max. load moment 3450kN.m with 19.2t counterweight



**QY130K**  
 Max. load moment 3969kN.m without counterweight  
 Max. load moment 4214kN.m with 10t counterweight  
 Max. load moment 4586.4kN.m with 20t counterweight  
 Max. load moment 4704kN.m with 27t counterweight  
 Max. load moment 5003kN.m with 38t counterweight

We pursue high reliability and precise execution

### PLC Computer Integrated Control System:



Lifting operation part is controlled by PLC computer integrated controller for construction machinery. Control signals and operating performance chart can be set and adjusted with digital data. The control system, combined with variable-displacement hydraulic system, can automatically and accurately adjust its output and pressure based on load variation, therefore makes crane control and operation smooth and precise.

- free of maintenance
- imported electronic components
- failure diagnostic function
- real-time monitoring function
- convenient and accurate operating performance

### Hydraulic System

- Imported ferrule-type pipe joints, free of leakage and antipollution
- Effective hydraulic oil cooling system
- Variable hydraulic system of cost energy and high efficiency for hoist (Patent No.: 01237657.4)
- Hydraulic system of shockproof self-alignment for swing (Patent No.: 03219267.3)
- Imported pump, motor, valves and sealing with excellent performance and reliability
- Integrated modular valve block with simple pipeline and less hydraulic resistance (Patent No.: 012044458.8)



ferrule-type pipe joint



turntable aligning device



## Consideration permeates into each key detail

- 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-swing 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-swing and smooth fine motion control.



Jib luffing cylinder



Jib self-erector



Convenient and comfortable drive environment



Streamlined upper cabin cab made of compound material can be tilted backwards 20°

### Comfortable driver's cab for construction machinery

- Integrated and streamlined cab body made of compound material.
- Curved and integrated front window, free of dead space of view.
- Implement complete operation by softly touching the pilot handle
- 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



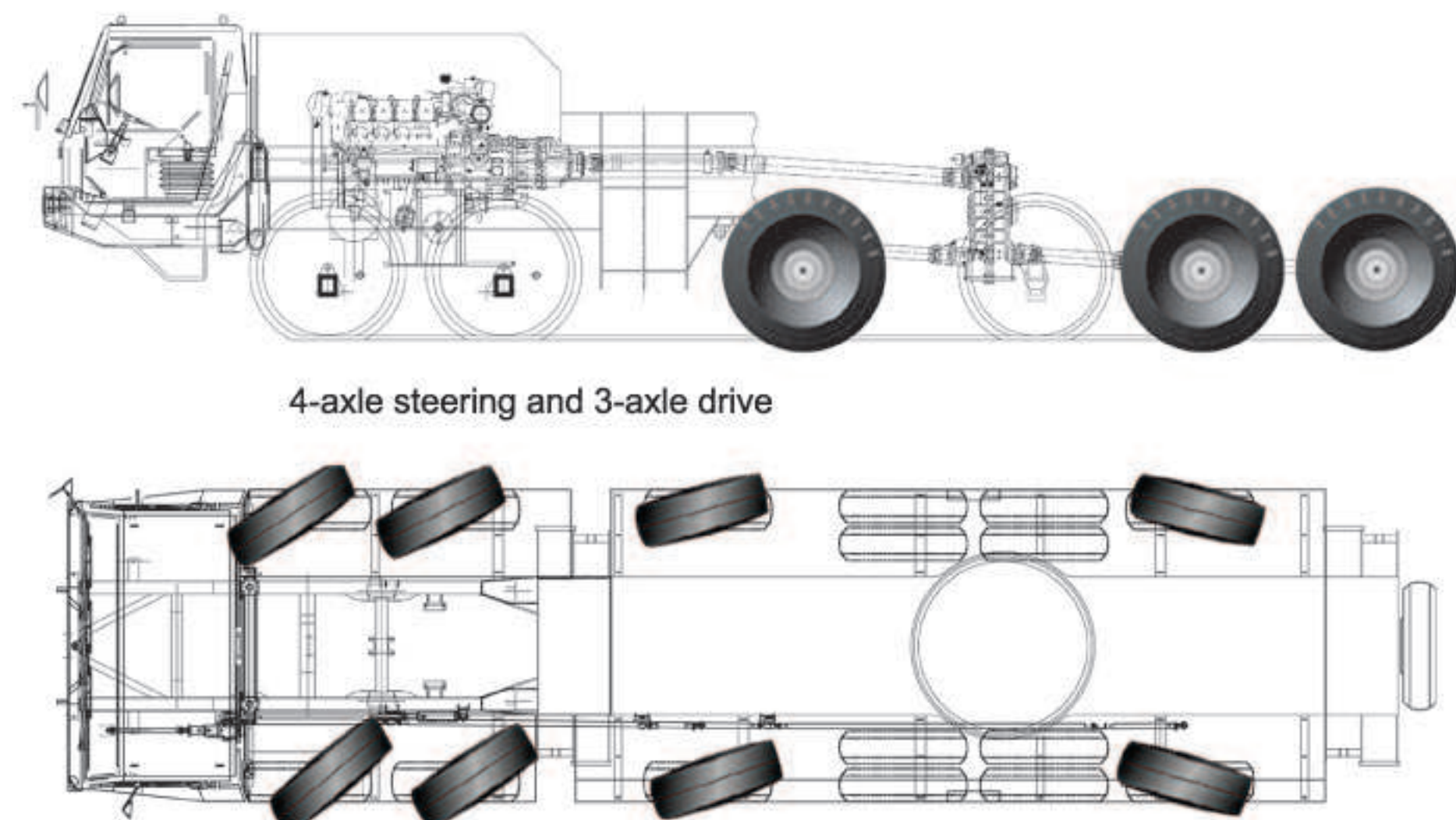
Back-up device with large sight view



Centralized lubrication device

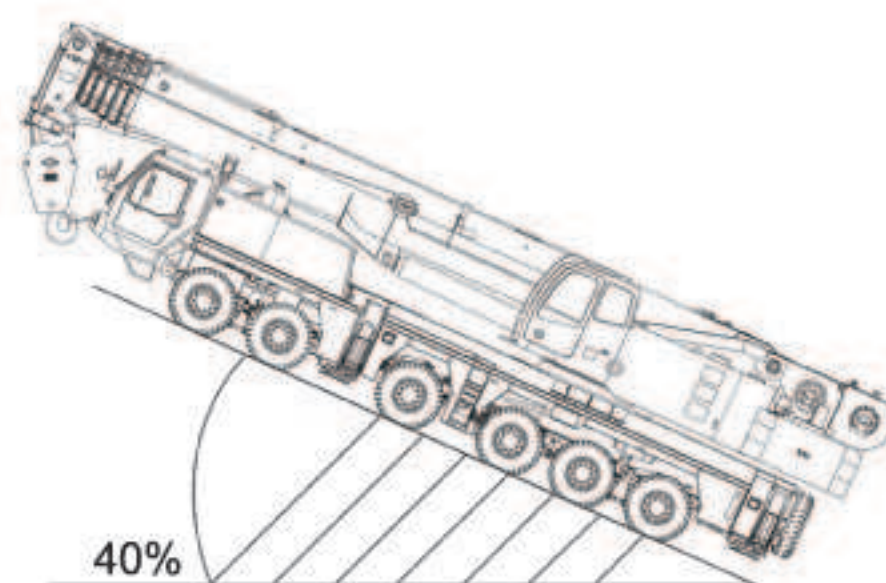
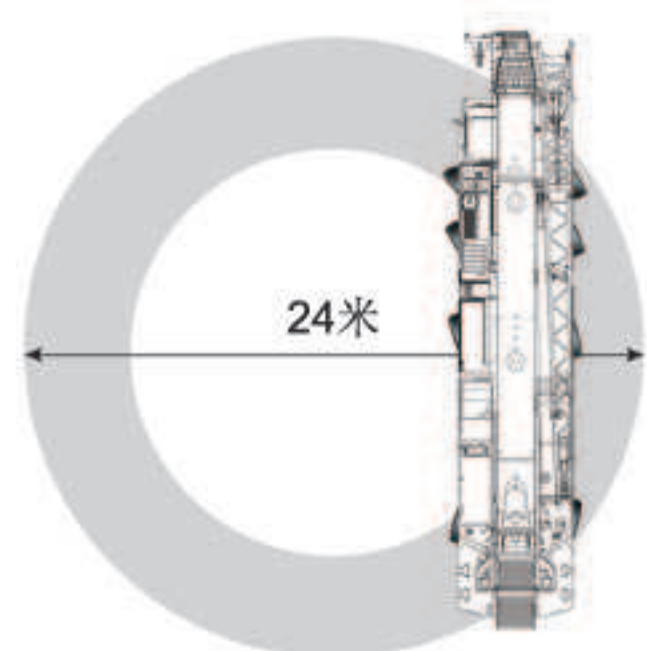
We have the ability of fast job-site transfer

### QY130K Chassis Steering System Diagram

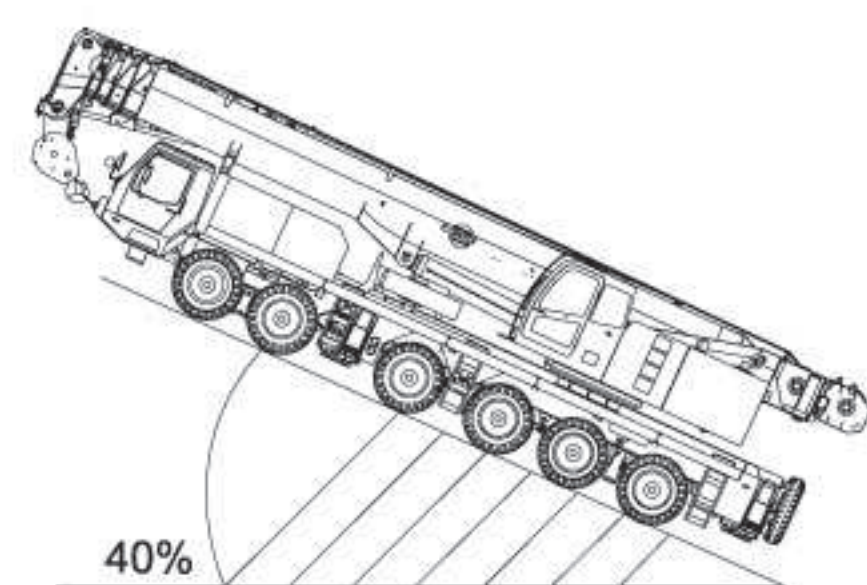
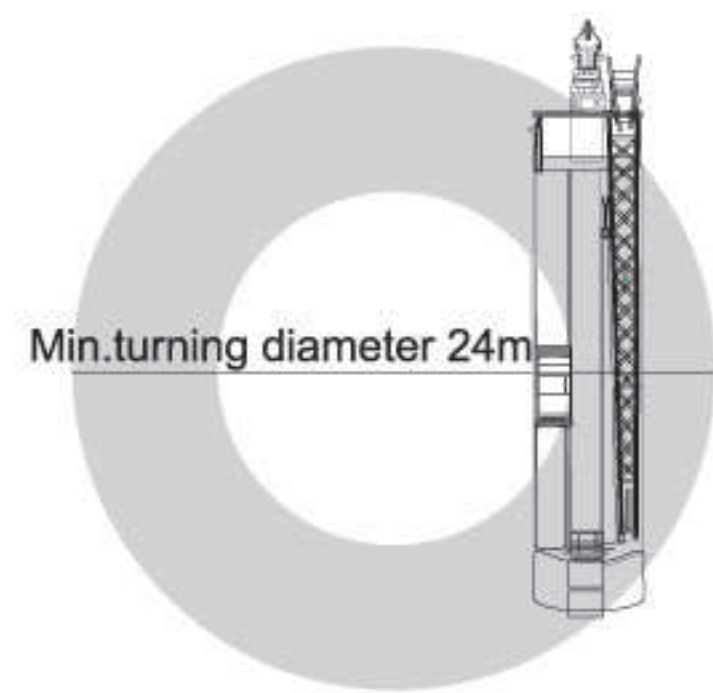


4-axle steering and 3-axle drive

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.



### QY100K Chassis Steering System Diagram

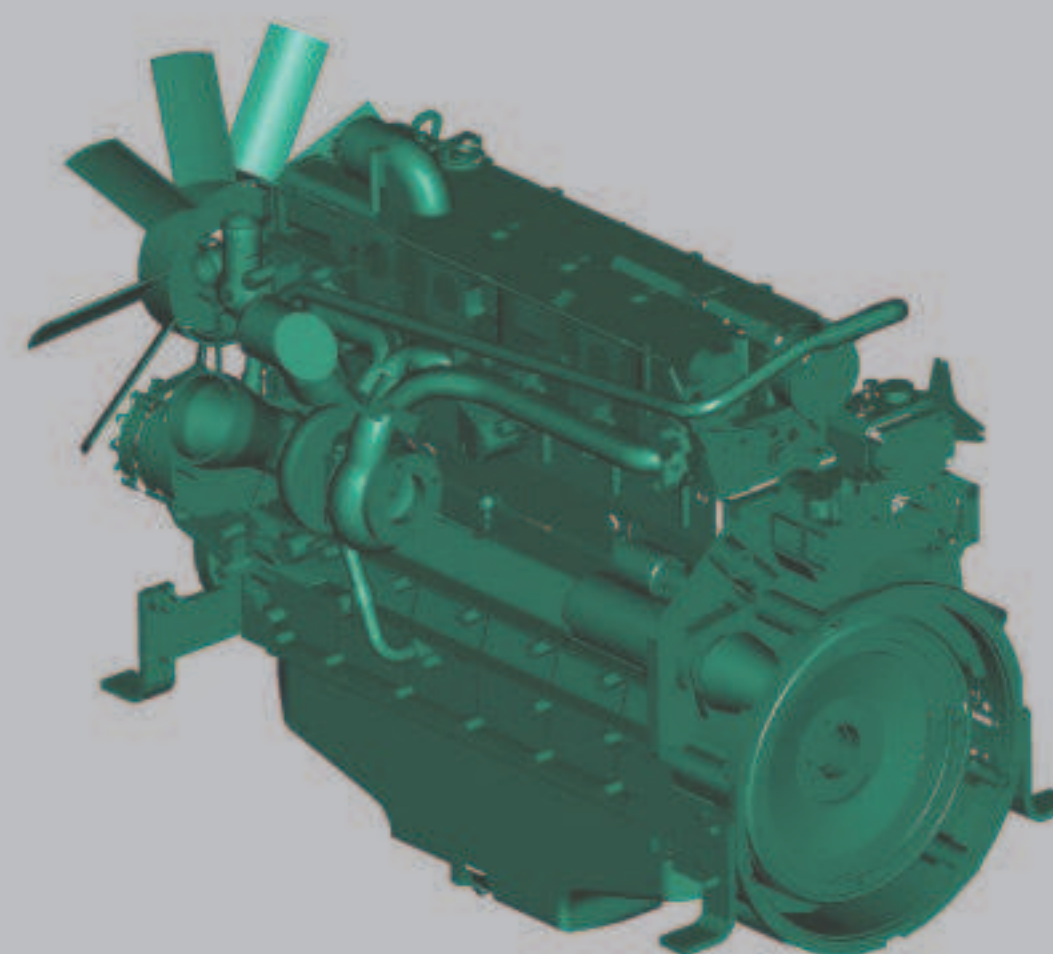


**Steering**

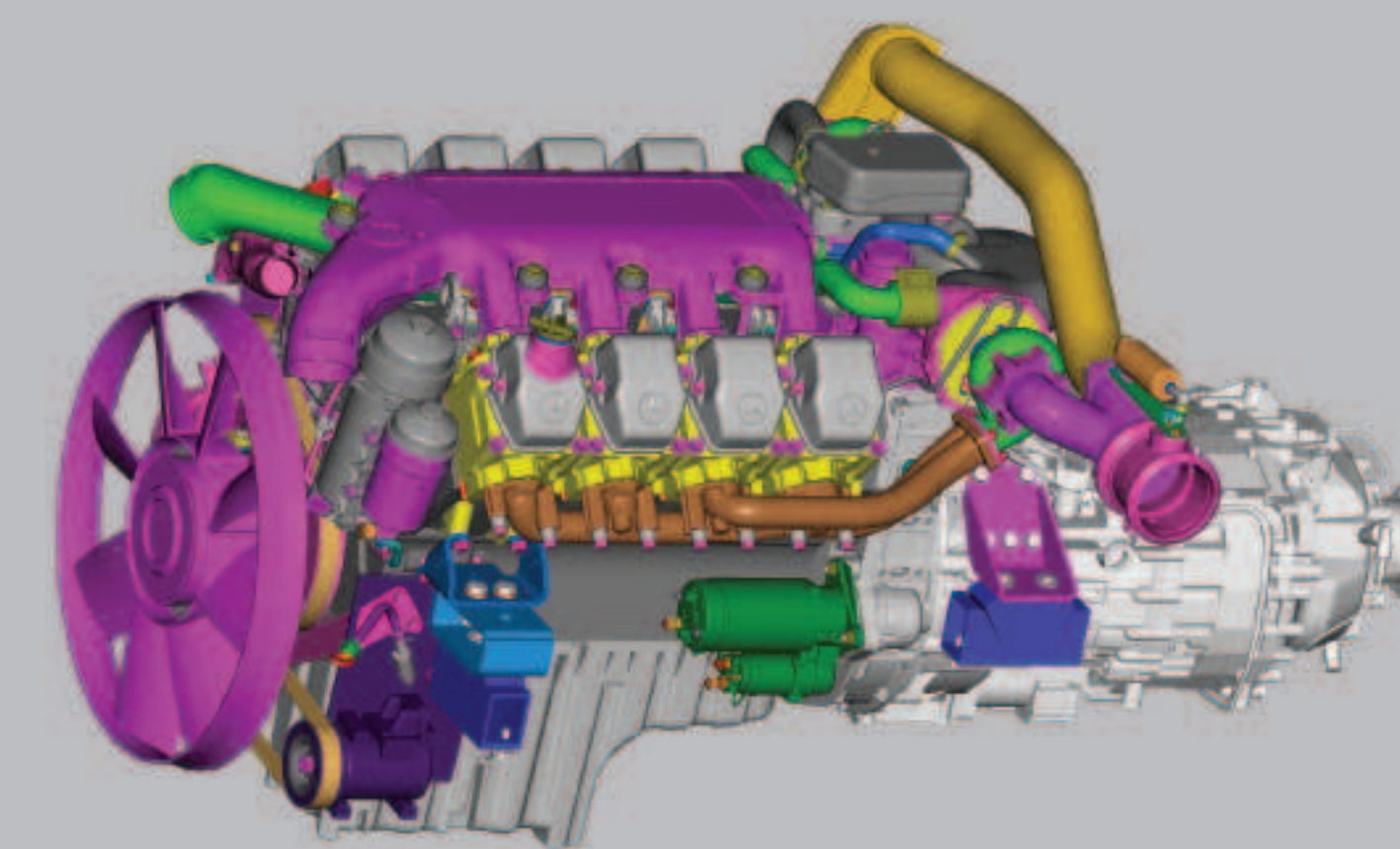
- 3-axle drive and 3-axle steering
- Min. turning diameter 24m
- Max. grade-ability 40%



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.



VOLVO engine for crane superstructure



Benz Euro III engine for crane carrier

# Truck crane technical specification

## QY130K Main Technical Data in Travel State

Dimensions	
(L×W×H)	14950×3000×3950mm
Wheel space	
1st.2nd axle	1420mm
2nd.3rd axle	2420mm
3rd.4th axle	1875mm
4th.5th axle	1350mm
5th.6th axle	1400mm
Track	2610/2307mm

Weight	
Dead weight in travel state	54900kg
Axle load	
1st.2nd axle	8500/8500kg
3rd.4th axle	8400/10750kg
5th.6th axle	10750/8000kg

Power	
Superstructure engine	
Engine rated output	162/2100kW/(r/min)
Engine rated torque	854/1400N.m/(r/min)
Max.travel speed	2100r/min
Carrier engine	
Engine rated output	390/1800kW/(r/min)
Engine rated torque	2400/1080N.m/(r/min)
Max.travel speed	1800r/min

Travel	
Travel speed	
Max.travel speed	70km/h
Min.turning diameter	24m
Min.ground clearance	275mm
Approach angle/Departure angle	23° /14°
Max.grade ability	40%
Fuel consumption of 100km	80L

## QY130K Main Technical Data For Lifting Operation

Lifting performance	
Max.total ratedlifting capacity	130t
Min.rated working radius	3m
Turning radius at swing table tail	4600mm
Max.load	
Parameters	5003kN.m
Full-extend boom	2090kN.m
Outrigger span	
Longitudinal distance	7.56m
Lateral distance	7.6(5.2)m
Lifting height	
Parameters	13m
Full-extend boom	58m
(28m)Full-extend boom+Jib	86m
Boom length	
Parameters	13m
Full-extend boom	58m
(28m)Full-extend boom+Jib	86m
Jib offset	0°、15°、30°

Working speed	
Boom elevating time	
Boom raising	60s
Boom telescoping time	
Full-extending/Retracting	420/400s
Max.swing speed	1.8r/min
Outrigger extending and retracting time	
Outrigger beam extending/Retracting	50/40s
Outrigger jack extending/Retracting	50/45s
Hoisting speed(single rope,4th layer)	
Main winch no load	115m/min
Aux.winch no load	115m/min

## QY100K Main Technical Data in Travel State

Dimensions	
Overall (L×W×H)	15230×3000×3860mm
Wheel space	1420+2420+1700+1420+1505mm

Weight	
Dead weight in travel state	54800kg 58000kg
Axle load	
1st axle	7000kg 7500kg
2nd axle	7000kg 7500kg
3rd axle	9000kg 10000kg
4th axle	12000kg 12500kg
5th axle	12000kg 12500kg
6th axle	7800kg 8000kg

Power	
Engine rated output	324/1800 (306/1900)kW/(r/min)
Engine rated torque	2100/1200 (2010/1200)N.m/(r/min)
Engine rated speed	1800 (1900)r/min
Min.ground clearance	310mm

Travel	
Approach angle	23°
Departure angle	15°
Braking distance(at 30km/h)	≤10m
Max.grade ability	40%
Min.turning diameter	24m
Fuel consumption of 100km	70L

## QY100K Main Technical Data For Lifting Operation

Lifting performance	
Max.total rated lifting capacity	100t
Min.rated working radius	3m
Turning radius at swing table tail	
At counterweight	4200mm
At auxiliary winch	4590mm
Max.load	
Base boom	3450(4m×88t)kN.m
Full-extend boom	1670(24m×7.1t)kN.m
Full-extend boom+Jib	1127(19.2m×6t)kN.m
Outrigger span	
Longitudinal distance	7.56m
Lateral distance	7.6m
Lifting height	
Base boom	12.8m
Full-extend boom	48.8m
Full-extend boom+Jib	66.8m
Boom length	
Base boom	12.8m
Full-extend boom	49m
Full-extend boom+Jib	49+18.1m

Working speed	
Jib offset	0°、15°、30°
Boom elevating time	
Boom raising	75s
Boom telescoping time	
Full-extending	160s
Max.swing speed	2r/min
Outrigger extending and retracting time	
Outrigger beam extending/Retracting	25/15s
Outrigger jack extending/Retracting	45/25s
Hoist speed(single line at 4th layer)	
Main winch	105m/min
Aux.winch	104m/min