SANY®

CE

# SPECIFICATION




45t

35m

51.5m

# SRE450

## SANY ROUGH TERRAIN CRANE

QUALITY CHANGES THE WORLD

crane.sanyglobal.com

V1.1

It is one of the core business units in SANY Group, specializing in the development and manufacturing of high-end wheel cranes, crawler cranes and tower cranes, including the complete range of wheel cranes from 8 to 2400t, crawler cranes from 25 to 4500t and tower cranes from 6 to 185t.

三一集团旗下核心事业部，从事高端轮式起重机、履带起重机、塔式起重机系列产品的研发制造。覆盖8-2400吨全吨位轮式起重机，25-4500吨全吨位履带起重机，6-185吨塔式起重机。




# SANY CRANE



# SRE450

## SANY ROUGH TERRAIN CRANE
## 45T LIFTING CAPACITY

A 45t rough terrain crane with four section 35m boom, featuring stronger capacity yet reduced self-weight. Key components come from International name brands. Operator comfort is improved by brand new cab design.

一款最大起重量45吨，4节臂，全伸臂长35m的越野起重机，自重轻，性能强，核心部件均为国际知名供应商提供，配备全新操纵室，驾驶、操作舒适度全面升级。



## Strong lifting capacity
Best in class

**超强性能**
吊载性能行业领先

## All new operator's cab
Ergonomic concept of safety and comfort

**全新操纵室**
操作安全、舒适、人机工程全面升级

## Brand-name components
Cummins engine/Dana transmission/Meritor axles

**国际知名供应商**
康明斯发动机/德纳变速箱/美驰车桥



# All New Operator's Cab
## 全新操纵室

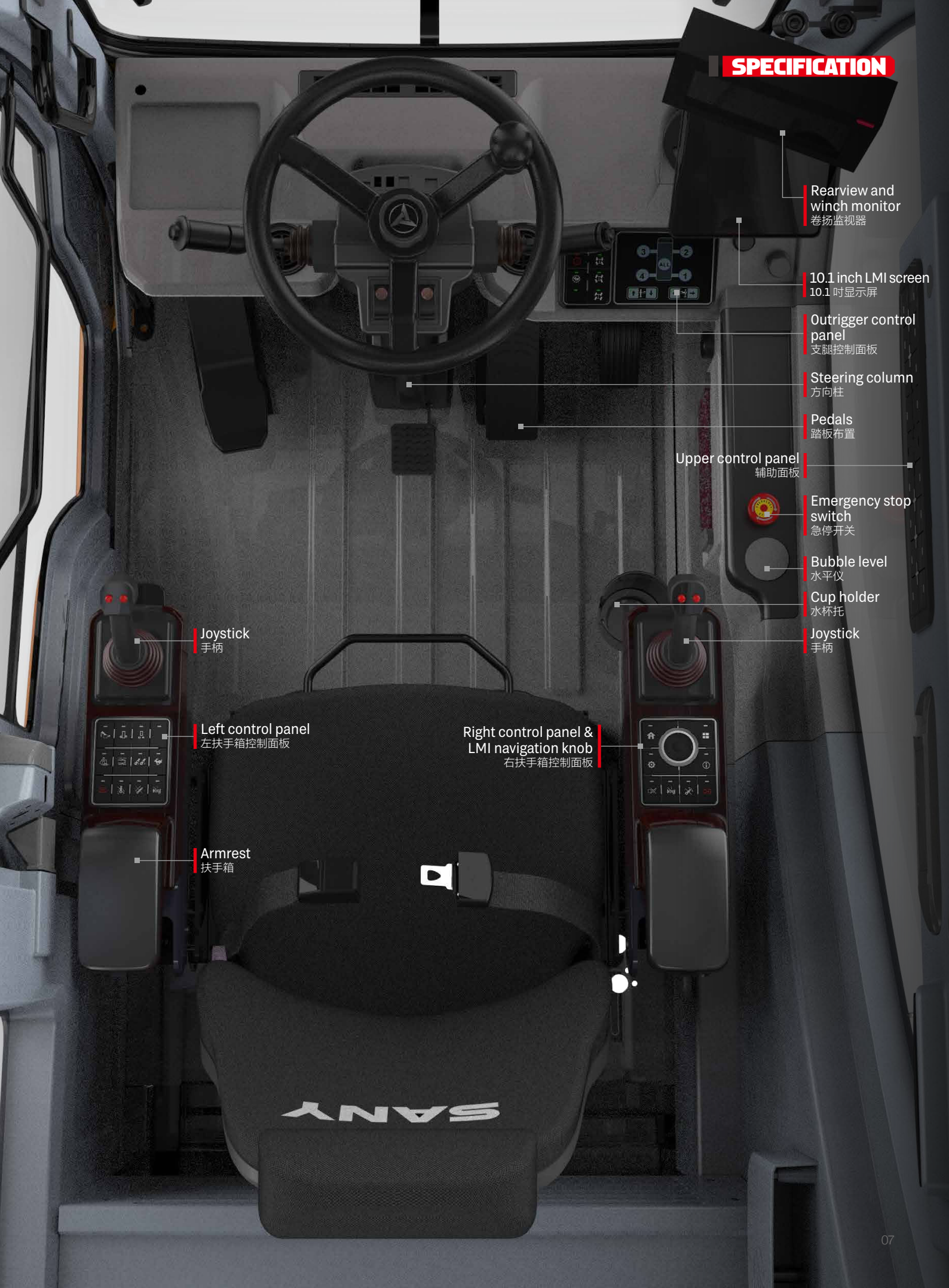


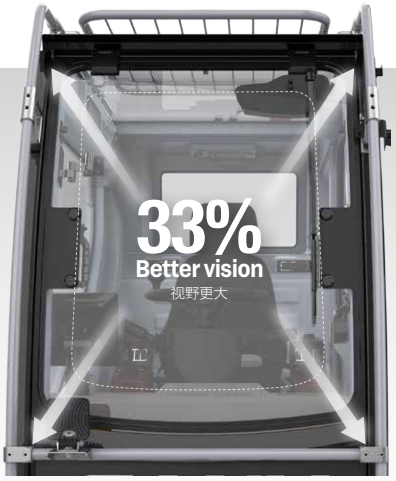

**Safety & Reliability**
安全可靠

**Comfort & Convenience**
舒适便捷

**Simplicity & Efficiency**
简单高效

# SPECIFICATION











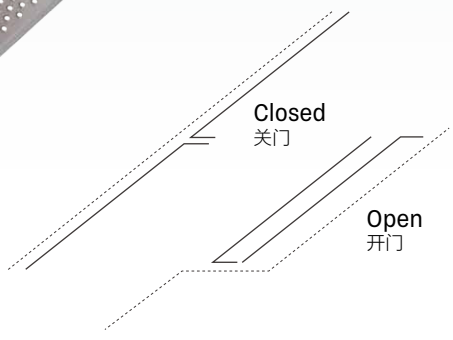

Integrating SUV genes, overall space is enlarged by 10% and forward field of vision is increased by 33%. The front windshield can be opened by 70 degrees, providing better ventilation and a second emergency exit.

融入 SUV 基因，整体空间增大 10%，配备超大可开合 70° 前挡风玻璃，视野提升 33%，增加空气对流，并可作为快速逃生通道。



Sliding door transits between tracks when closing to make perfect thermal and acoustical insulation.
侧向变轨滑移门完美隔绝外部环境。

Getting in and out is made more convenient with the power sliding side step.
全宽电动伸缩踏板，超大安全便利进出通道。



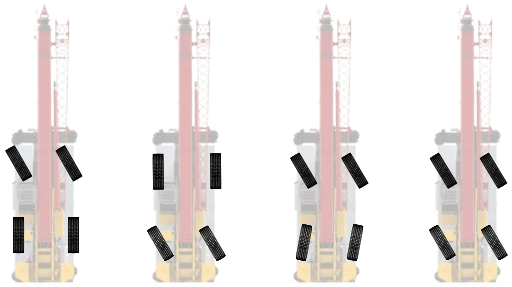



**Adjustable** steering wheel for driving and controlling, modular control panels, and smart user interface deliver intuitive and highly efficient control.

**驾控一体**的方向盘、模块化控制面板、UI 智能操作界面，操作简单，为高效吊装保驾护航。

# Convenient Transport
## 行驶运输便捷性

### Four steering modes
四种转向模型



2 wheel front 前轮转向模式
2 wheel rear 后轮转向模式
4 wheel 四轮转向模式
Crab 蟹行模式

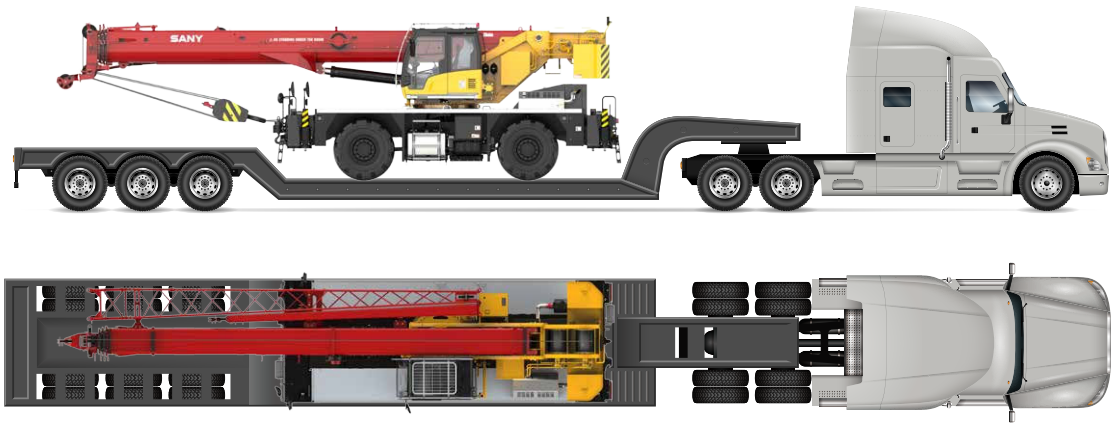


**Steering control panel**
转向控制面板

### One-Trailer Transport
一车整运

The basic machine is transported at 32.3t with counterweight, jib and hooks, 2.98m wide and 3.73m high, satisfying road regulations.

主机运输尺寸为宽 2.98m，高 3.73m，重量为 32.3t（带配重、副臂和吊钩），满足道路运输要求。




### Axle Load Distribution
轴荷分布

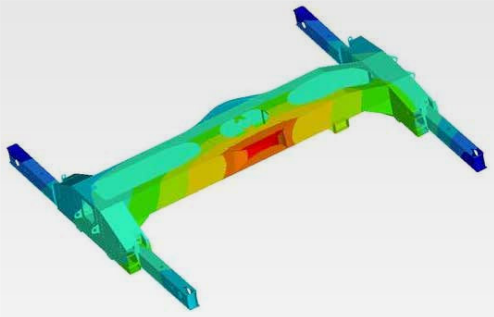
| Axle 轴 | 1 | 2 | Gross weight 总重量 |
|---|---|---|---|
| Axle load 轴荷 /kg | 16100 | 16200 | 32300 |
| Remark 备注 | Boom angle 0° , with full water and fuel reservoirs, main hook, aux hook， one driver.<br>起重臂角度 0° 、满水、满油、主钩、副钩吊臂头，驾驶员 1 人 | | |

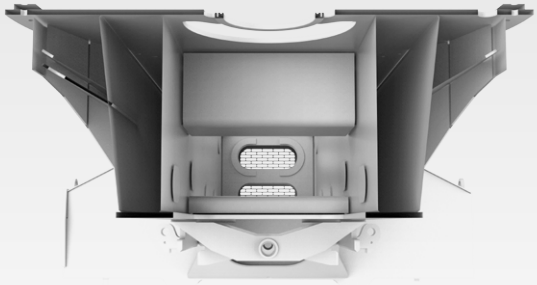
# Carrier Frame
## 车架底盘

Inverted trapezoidal variable cross section frame is 5% less in weight and 10% stronger in rigidity.

倒梯形变截面车架，实现车架减重 5% 的同时，刚性提升 10%。



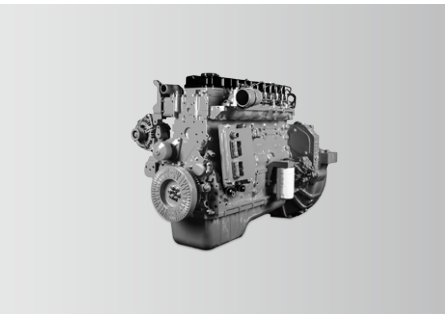



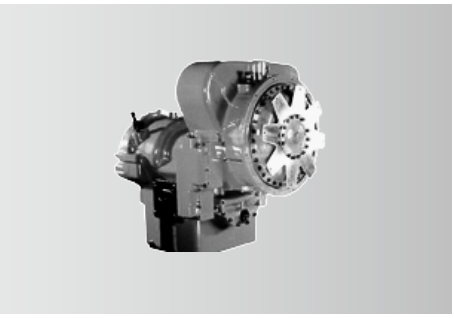


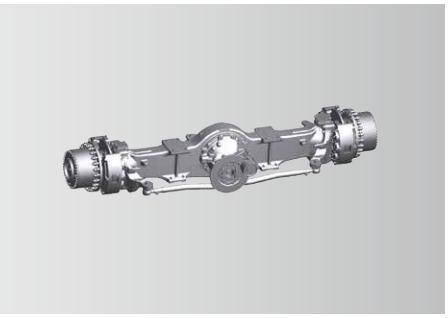
5%
Weight 重量

10%
Rigidity 刚性

# Power Train
## 动力系统







**Engine**
Power comes from a Cummins QSB6.7 inline six-cylinder water-cooled, turbocharged and intercooled off-highway diesel engine, complying with EU V emission standard.
Rated power: 209kW/2200rpm.
Max. torque: 1288N·m/1500rpm.

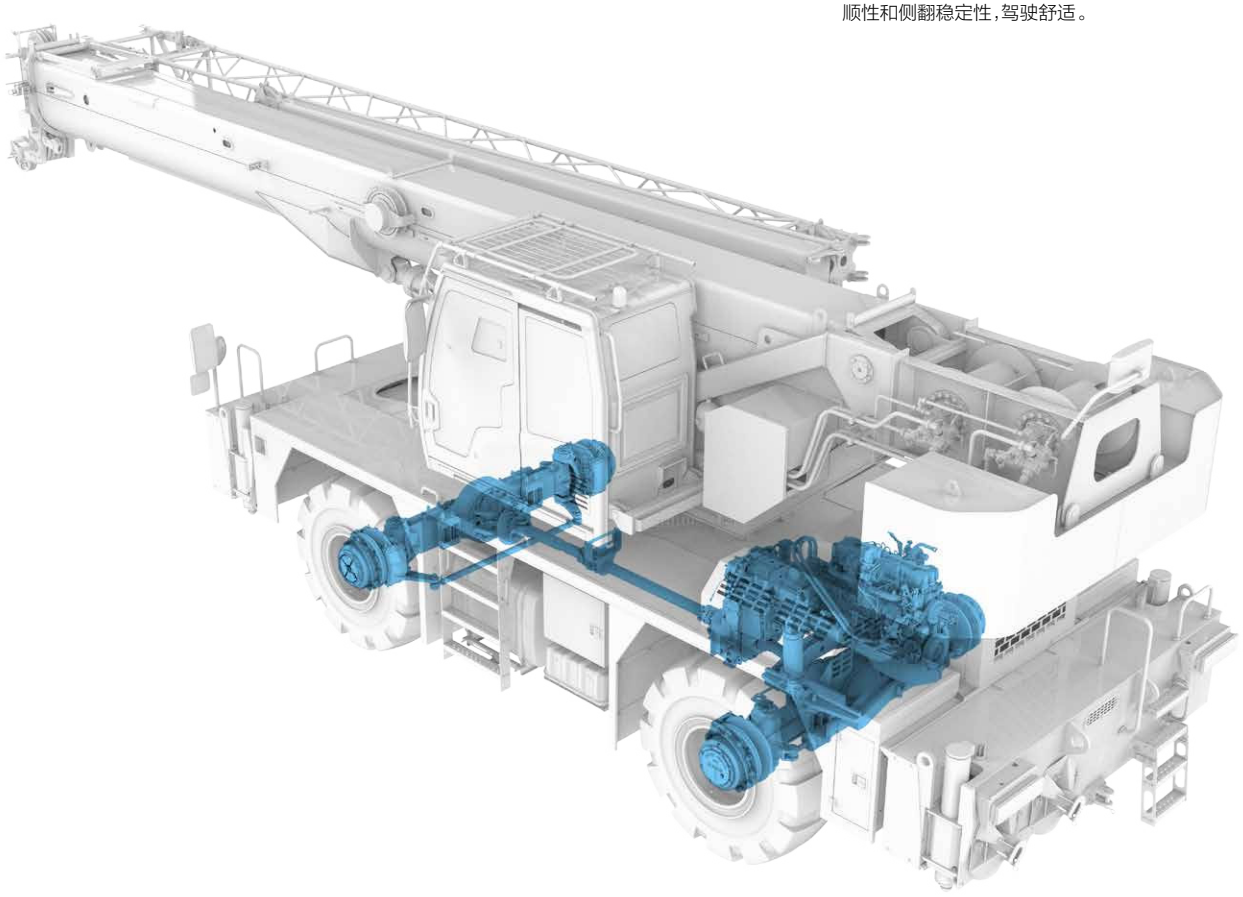
**发动机**
康明斯 QSB6.7 欧 V 非道路直列六缸水冷、增压中冷柴油发动机。
额定功率 :209kW/2200rpm。
最大扭矩 :1288N·m/1500rpm。

**Transmission**
Dana electronically controlled auto transmission features 6 speeds forward and 3 speeds reverse, wide ratio range, and smooth gearshift with reduced maintenance cost.

**变速箱**
德纳全自动电控变速箱，6 个前进挡 3 个后退挡，速比范围大，换挡平顺无冲击，维修保养成本低。

**Axle and suspension**
Meritor axles, both axles are driven and steered. Front axle is mounted to the frame by independent steel plate, and rear adopts oscillation cylinders with hydraulic lockout. Driving comfort and lateral stability is therefore guaranteed on rough terrains and conditions.

**车桥悬挂**
美驰车桥，前后桥均为驱动桥和转向桥。前桥采用独立式钢板连接，后桥采用摆动支架式，液压油缸闭锁悬架系统 ；能适用各种恶劣工况和路面，保证车辆行驶的平顺性和侧翻稳定性，驾驶舒适。



# Electrical System
## 电气系统

**Smart CAN-BUS communication system**
International advanced CAN-BUS data communication network applied for display, instrument panel, I/O module, joysticks and main sensors, allowing for high-speed data transmission and quick response in less than 20ms.

**Cabling**
Centralized electric cabinet and heavy-duty connector applied for cabling of superstructure, convenient for maintenance; IP67 protection rating, ensuring high reliability.

**Winch camera (optional)**
Winch cameras equipped for monitoring its working condition and identifying rope disorder in time.

**Integrated bus button panel input**
Various operating states displayed by button indicator lights, and one-button multi-functional operation realizable by writing various operation modes.

**智能总线通信系统**
国际先进的分布式集成总线数据通信网络，
显示器、显示仪表、I/O 模块、操作手柄、主要传感器等采用 CAN 总线组网，高速信息传输、响应速度小于 20ms。

**线束布线**
上车线束采用采用集中式分线盒及重载接插件，维护方便，防护等级 IP67，可靠性高。

**卷扬监控系统（选配）**
卷扬摄像头实时监控工作状态，能及时发现乱绳情况。

**集成总线按键面板输入**
可通过按键指示灯显示各种工作状态，通过写入多种操作模式实现一键多功能。



**Centralized electric cabinet**
集中式电控箱



**Anti-two-block switch**
高度限位器



**Third wrap indicator**
三圈保护器



**Cable reel**
电缆卷筒



**Anemometer (Optional)**
风速仪（选配）

**Multi-functional screen**
Large 10.1 inch HD touch screen display with all new interface. Incorporated crane setup, load charts, working conditions, working period, virtual wall, Bluetooth, radio and diagnostics with an additional navigation knob.

**Precise load moment indicator**
SANY independently developed LMI, accuracy of 0 ~ 5%.

**高新多功能显示屏**
采用 10.1 寸高清显示屏，全新操作界面，可实现触摸与旋钮多方式操控。
工况、力矩、发动机、变速箱、控制器 IO 点、工作时间统计等丰富的设备状态信息呈现，集成虚拟墙、蓝牙、收音机等多种扩展功能。

**精准力限器系统**
三一自主研制的力矩限制器系统，精度达 0~5%。




## MachineLink+

ROOTCLOUD T-AMS Pro device comes as standard to realize GPS trajectory, machine status, maintenance management, E-fence, alarm management, and operator management on computer or mobile MachineLink+ platform, by remote control of cranes. This telematics package greatly boosts efficiency of customer fleet management and helps provide better after-sales services.

标配树根物联终端 T-AMS Pro，通过对起重机设备的远程控制，在电脑或移动端 MachineLink+ 平台实现轨迹回放、设备状态、维保设备、电子围栏、报警管理、操作手管理等功能，极大提高客户设备管理效率，提升三一售后服务能力。

- Fleet status 设备状态
- Cautions & Alerts 报警管理
- Fleet tracking 轨迹回放
- Maintenance Assistant 维保小助手



- Location & E-fence 定位及电子围栏
- Work report 宏观报表
- Fuel usage 油耗
- Operator management 操作手管理



# Hydraulic System
## 液压系统

Three boom sections extended by single cylinder with rope arranger. Synchronized telescoping of variable lengths for more applications with higher efficiency.

4 节主臂，单缸绳排，可实现同步伸缩，臂长任意组合，省时省力。




**Telescoping mode**
伸缩模式

# Superstructure
## 上车

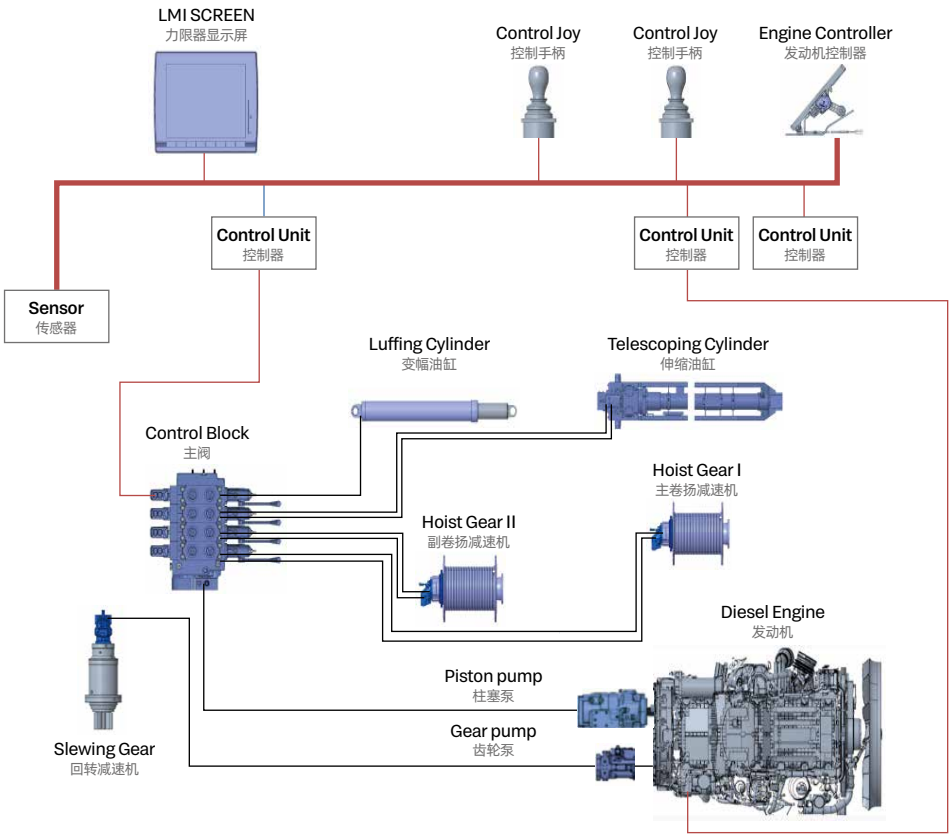
Open-type electronically controlled load-sensing system and dynamic slewing brake system.
Electro proportional compensated passive luffing-down system applied to control the luffing speed, making luffing more reliable and stable.
Dynamic slewing brake realizing precise control of slewing speed.
Electronically controlled load-sensing hydraulic system, electronic joystick and electronic throttle, ensuring easy operation and more accurate control and millisecond-level action response speed, with min. single-rope hoisting speed 0.8m/min, and distribution difference in case of combined motions 8%.

通过开式电控负载敏感系统和动态回转制动系统；
电比例自重落幅系统控制落幅速度，更可靠更平稳；
具备动态回转制动功能，可实现回转速度精准控制。
电控负载敏感液压系统，采用电手柄、电油门控制，轻松操作的同时，控制更精准；动作响应毫秒级速度；卷扬单绳最低速度 0.8m/min；复合动作分配误差 8%。

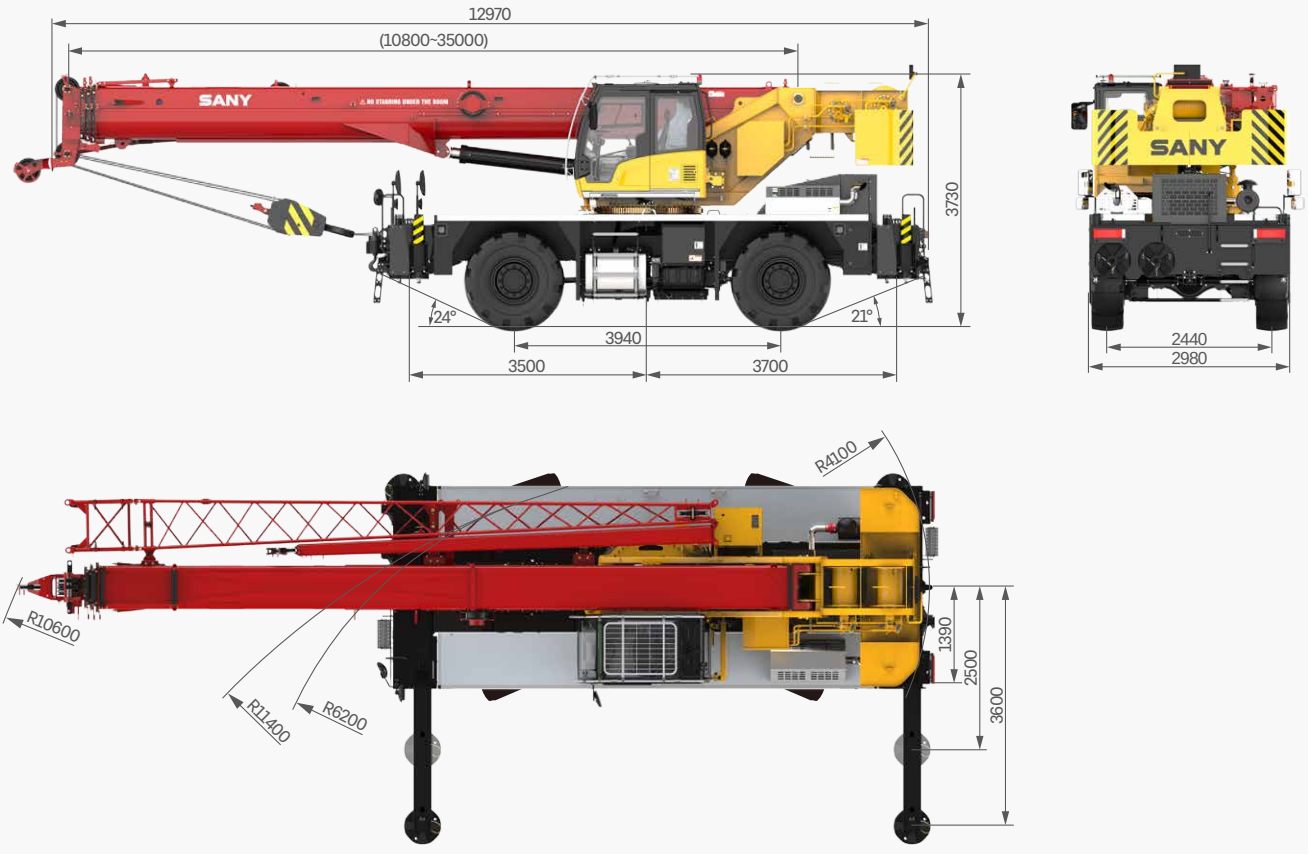
# Chassis
# 下车

**Steering system**
A gear pump installed to supply oil for hydraulic steering, steering pressure controlled by electro-proportional relief valve, four steering modes realized by solenoid directional valve.
**Suspension system**
Different modes including normal driving and Pick & Carry with suspension locked, suspension to be locked when the crane is working.
**Outrigger telescoping system**
The electro proportional relief valve identifies pressure staging of outrigger telescoping, satisfying operation requirements under high pressure and forming protection under limited pressure.

**转向系统**
液压转向系统采用齿轮泵提供油源，通过电比例溢流阀精确控制转向压力，通过电磁换向阀实现前轮转向，后轮转向，全轮转向和蟹行转向共计四种转向模式。
**悬挂系统**
悬挂系统通过选择不同的悬挂模式可以实现正常行驶和锁定模式下的带载行驶；在起重机上车作业时能够对悬挂进行锁定。
**支腿伸缩系统**
支腿伸缩采用电比例溢流阀对支腿伸缩进行压力分级，既满足高压力动作需求，也可满足限压保护功能。



# Overall Dimensions
整机尺寸



# Technical Specification
## 整机参数

| CATEGORY 类型 | ITEM 项目 | | UNIT 单位 | VALUE 参数 |
|---|---|---|---|---|
| CAPACITY 额定起重量 | Max. lifting capacity 最大起重量 | | t | 45 |
| WEIGHT 重量参数 | Gross weight 整机总质量 | | kg | 32300 |
| POWER 发动机参数 | Engine model 发动机型号 | | - | QSB6.7 (EU V) |
| | Max. engine power 发动机最大功率 | | kW/rpm | 209/2200 |
| | Max. engine torque 发动机最大输出扭矩 | | N·m/rpm | 1288/1500 |
| DIMENSIONS 尺寸参数 | Overall length 整机全长 | | mm | 12970 |
| | Overall width 整机全宽 | | mm | 2980 |
| | Overall height 整机全高 | | mm | 3730 |
| TRAVEL 行驶参数 | Max. travel speed 最高行驶速度 | | km/h | 34 |
| | Steering radius 转弯半径 | Min.steering radius 最小转弯半径 | m | 6.2 |
| | | Min.steering radius of boom tip 臂头最小转弯半径 | m | 10.6 |
| | Wheel formula 车轮模式 | | - | 4×2; 4×4 |
| | Min.ground clearance 最小离地间隙 | | mm | 370 |
| | Approach angle 接近角 | | ° | 24 |
| | Departure angle 离去角 | | ° | 21 |
| | Max.gradeability 最大爬坡度 | | - | 90% |
| MAIN PERFORMANCE 主要性能参数 | Working temperature range 使用温度区间 | | ℃ | -25~+51 |
| | Min.rated lifting radius 最小额定幅度 | | m | 3 |
| | Tail slewing radius 转台尾部回转半径 | | m | 4.1 |
| | Boom sections (Qty.) 臂节数 | | - | 4 |
| | Boom shape 臂形状 | | - | U shape U 型 |
| | Max.lifting moment 最大起重力矩 | Basic boom 基本臂 | kN·m | 1421 |
| | | Full-extension boom 全伸主臂 | kN·m | 882 |
| | Boom length 臂长 | Basic boom 基本臂 | m | 10.8 |
| | | Full-extension boom 全伸主臂 | m | 35 |
| | | Full-extension boom + jib 全伸主臂 + 副臂 | | 51 |
| | Max.lifting height 最大起重高度 | Basic boom 基本臂 | m | 11.5 |
| | | Full-extension boom 全伸主臂 | m | 35.3 |
| | | Full-extension boom + jib 全伸主臂 + 副臂 | m | 51.5 |
| | Outrigger span (Longitudinal × Transverse) 支腿跨距（纵 × 横） | | m | 7.2×7.2 |
| | Jib offset 副臂安装角度 | | ° | 0, 15, 30 |
| AIRCONDITIONER 空调 | In operator's cab 上车空调 | | - | Heating & cooling 制冷、制热 |

# Technical Specification
## 整机参数



### Hook 吊钩

| Rated load 额载 /t | Number of sheaves 滑轮数量 | Rope rate 倍率 | Hook weight/kg 吊钩重量 |
|---|---|---|---|
| 40 | 4 | 8 | 320 |
| 5 | - | 1 | 85 |



### Operations 主要动作参数

| Item 项目 | | Max.single rope lifting speed (empty load) 单绳速度（空载） | Rope diameter/length 钢丝绳直径 / 长度 | Max. single line pull 最大单绳拉力 |
|---|---|---|---|---|
| Main winch 主卷扬 | | 141m/min | Φ16mm/165m | 5.6t |
| Auxiliary winch 副卷扬 | | 135m/min | Φ16mm/110m | 5.6t |
| Slewing speed 回转速度 | | (0~2.8) r/min | | |
| Full luffing up/down time of boom 主臂起落幅时间 | | 40s/47s | | |
| Full extension/retraction time of boom 主臂伸缩时间 | | 41s/40s | | |
| Outrigger jack 垂直支腿 | Extension 伸 | 25s | | |
| | Retraction 缩 | 20s | | |
| Outrigger beam 水平支腿 | Extension 伸 | 22s | | |
| | Retraction 缩 | 12s | | |

# Crane Introduction
## 整机介绍



### Carrier frame 车架

- Double longitudinal beam construction welded by high strength steel plate, higher bearing capacity.
- 车架为高强钢板焊接而成的双纵梁结构，承载能力强。

### Engine 发动机

- Model: Cummins QSB6.7 inline six-cylinder diesel engine with watercooler and inter cooler.
- Rate power: 209kW/2200rpm.
- Emission standard: EU V.
- Fuel reservoir capacity:350L.
- 型号：康明斯 QSB6.7 直列六缸、水冷却、增压中冷、柴油发动机。
- 额定功率：209kW/2200rpm。
- 排放标准：欧 V。
- 油箱容积：350L。

### Transmission 变速箱

- Auto-transmission, 6 forward gears and 3 reverse gears, large speed ratio range, adaptable to slope climbing and high-speed traveling.
- 自动变速箱，变速箱有 6 个前进档、3 个后退挡，速比范围大，即可满足低速场地爬坡行驶又可满足高速行驶。

### Axle 车桥

- Two axle chassis of flexible maneuverability, four-wheel drive, excellent dynamic performance.
- 操控灵活，底盘两桥设计，前、后桥驱动，动力性能好。

### Suspension system 悬挂

- The front is rigidly mounted, and the rear axle adopts pivot oscillation suspension with hydraulic lockout.
- 前桥刚性连接，后桥带油缸锁定枢轴摆动悬挂。

### Electrical system 电气系统

- Two packs of 12V, 120Ah batteries.
- 2 块 12V、120Ah 电池。

### Tires 轮胎

- Large diameter off-road 20.5-25 tires deliver large ground clearance and strong off-road agility.
- 大直径越野轮胎，离地间距大，越野性能强，轮胎型号 20.5-25。

### Brake 制动系统

- Dual circuit braking system. When one circuit fails, the other can still work normally, improving the safety and reliability of the braking system.
- 双回路制动系统，当某一回路出现故障时，另一回路仍能正常工作，提高制动系统的安全性和可靠性。

### Hydraulics 液压系统

- Adopt stable and high-quality main oil pump, enhancing system reliability. Precise parameter matching contributes to superior controllability of the vehicle.
- Hydraulic fluid reservoir: 405L.
- 采用稳定、高品质的主油泵，系统可靠性高；通过精确的参数匹配，操控性能优越。
- 液压油箱容积：405L。

### Outrigger 支腿

- H-type telescoping outrigger, 4-point support, with span (longitudinal × transverse) 7.2m × 7.2m.
- 采用 H 形伸缩支腿，4 点支撑，纵、横跨距 7.2m × 7.2m。

### Control system 控制系统

- CAN-BUS: The bus instrument of integrated intelligent control electrical system can display driving parameters at any time, making driving easier. At the same time, engine failure prompt ]makes the maintenance and troubleshooting more convenient and faster.
- All-round safety protection, the main and auxiliary hoists are equipped with three-circle indicators and A2B switches to prevent over-hoist-down and over winding of the wire ropes.
- Load moment indicator: It adopts highly intelligent moment indicator system to fully protect lifting operation and ensure accuracy, stability and comfort.
- 总线仪表：采用集成一体智能控制电气系统的总线仪表，可随时掌控行驾参数，驾乘轻松；同时拥有发动机故障提示功能，维修排故方便、快捷。
- 全方位的安全保护系统，主、副卷扬配置三圈保护器和高度限位器，防止钢丝绳过放和过卷，防倾翻保护，极限角度保护。
- 力限器：采用高度智能力矩限制器系统，全方位保护吊载作业，确保操作精准、平稳、舒适。

# Crane Introduction
## 整机介绍



### Operator's cab 操纵室

- New generation T-series operator's cab features curved-rail sliding door, safety glass and corrosion resistant steel construction with softened interior trim. Large internal space with panoramic skylight, adjustable seat and other user-friendly design incl. A/C, electric wiper, making it more comfortable and easier to work. The LMI screen is equipped to realize the logic integration of the control console and the display, so that all working data can be seen at a glance.
- 全新一代 T 系列操纵室，带变轨滑移门，配备安全玻璃，耐腐蚀钢板，配置软化内饰、超大内部空间、可调式座椅等人性化设计，配有空调、电动雨刮器，操作更舒适、轻松；配置力矩限制器显示屏，实现主控台与操作显示系统有机结合，使吊装作业的全部工况数据一目了然。

### Boom system 臂架系统

- Boom: Four-section, basic boom 10.8m, full-extension 35m, made of high-strength welded structural steel with U-shape cross-section.
- Jib: Two-section, 9.2m / 16m, offset at 0°, 15°, 30°.
- 主臂：四节臂，基本臂 10.8m，全伸臂 35m，由高强度焊接结构钢制成，U 形截面。
- 副臂：两节副臂，分别为 9.2m 和 16m，安装角度为 0° 15° 30° 。

### Slewing platform 转台结构

- SANY independently developed, made of fine grain high strength steel in optimized structure.
- 三一自主设计，结构更优化，由细晶粒高强钢制成。

### Hydraulics 液压系统

- Load sensing variable piston pump can adjust displacement in real time to achieve high precision flow control, greatly reducing energy loss.
- Winch adopts electronically controlled variable motor with high operation efficiency. Max. single rope speed of main and auxiliary winch are 141m/min, 135m/min, respectively.
- Slewing system integrating slewing buffer and free swing technology, start & brake process is smoother and the inching motion performance is ever better.
- 采用负载敏感变量柱塞泵，能实时调节油泵排量，实现高精度的流量控制，极大的降低能量损耗。
- 卷扬采用电控变量马达，作业效率高；主、副卷扬单绳速度最大达141m/min、135m/min。
- 回转系统带集成回转缓冲阀，具有自由滑转功能，回转启动和控制平稳，微动性卓越。

### Hoist 起升机构

- Pump and motor are applied, highly efficient and energy saving. Balance valve and unique anti-hook-slip technology are perfectly coupled to achieve smooth rise and fall of the load. Non-rotation high strength wire rope is used.
- 泵、马达高效节能。卷扬平衡阀与独特的防溜钩技术完美结合，重物起落平稳。配备防旋转高强度钢丝绳。

### Luffing system 变幅系统

- Double acting single rod hydraulic cylinder with balance valve, luffing angle: -2°~ 80°. Passive luffing down, reducing energy consumption, improving luffing stability.
- 双作用单活塞杆液压缸，带安全平衡阀，变幅角度：-2°~80°，采用自重落幅系统，降低能耗，提高落幅操作的平稳性。

### Slewing 回转系统

- 360° slewing in both directions, max. speed 2.8r/min. It adopts electro proportional speed control for stable movement and system reliability. The unique slewing balance design makes the braking smoother.
- 360° 转动，最大回转速度 2.8r/min。液控比例调速控制，动作稳定，系统可靠。独特的回转缓冲设计，制动更平稳。

### Counterweight 配重

- Fixed block 4.5t.
- 固定配重 4.5t。

### Safety equipment 安全装置

- Load moment indicator: Analytical mechanics is applied and moment limiter calculation system based on the hoisting mechanics model is established. Through online empty-load calibration, the rated accuracy can reach 0~5% to fully protect the hoisting operation. In case of overload, the system will automatically give an alarm to guarantee safety operation.
- The hydraulic system includes balance valve, relief valve, two-way holding valve, etc. to realize system stability and reliability.
- The main and auxiliary winches are equipped with third-wrap indicators to prevent over-hoist-down of the wire rope.
- Boom head and jib head are equipped with A2B switches to prevent the wire rope from over winding.
- The length & angle sensor and pressure sensor are equipped to signify working status in real time, automatically stopping hazardous actions with buzzer alarm.
- 力矩限制器：采用分析力学方法，建立了基于吊重力学模型的力矩限制器计算系统，通过在线空载标定，额定吊重精度达到 0~5%，全方位保护吊载作业；超载作业时，系统自动报警提示，为操纵作业提供安全保障。
- 液压系统配置平衡阀、溢流阀、双向液压锁等元件，实现液压系统稳定可靠。
- 主、副卷扬配置三圈保护器，防止钢丝绳过放。
- 主、副臂臂端配置高度限位器，防止钢丝绳过卷。
- 配置长度角度传感器、压力传感器，实时显示起重机作业状态，自动切断危险动作，蜂鸣报警。

### Optional equipment at extra fees 选配

- Cooling A/C / 40t hook block (5 sheaves) / Assisting sheave / Anemometer / Boom tip camera / Winch camera / Reversing camera / Data recorder / Techking tires / Outrigger pads / Outrigger pad bracket / Spark arrester / Air intake shutoff valve / Reversing radar / Front towing device / Specialized tires for desert traveling
- 单冷空调 /40t 起重钩 (5 滑轮 )/ 辅助滑轮 / 风速仪 / 臂尖摄像头 / 卷扬摄像头 / 倒车摄像头 / 数据记录仪 / 泰凯因轮胎 / 尼龙支腿垫板 / 支腿垫板托架 / 火星灭火器 / 发动机进气关断阀 / 倒车雷达 / 特殊前拖钩 / 沙漠胎

# Working Conditions
## 工况组合



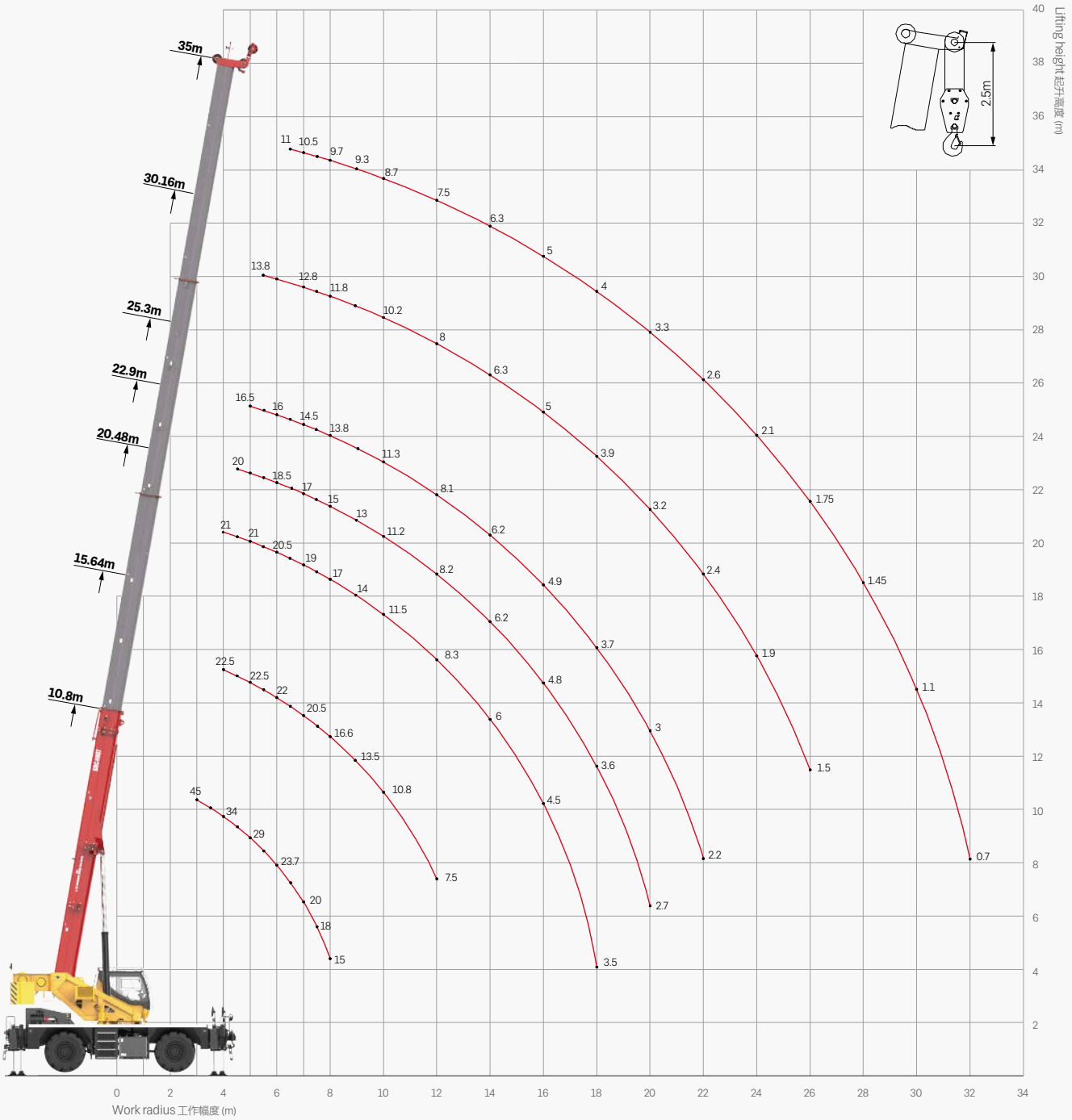

**Telescopic boom on outriggers**
主臂、支腿吊载

**Fixed jib on outriggers**
固定副臂、支腿吊载

**Telescopic boom on tires**
主臂、轮胎吊载

# Operating Range - Telescopic Boom, On 100% Outriggers

## 起升高度曲线 - 主臂，全伸支腿



# Load Chart-Telescopic Boom

## 性能表 - 主臂




Unit: kg

| Radius (m) 幅度 | 10.8 | 15.6 | 20.5 | 22.9 | 25.3 | 30.2 | 35.0 | Radius (m) 幅度 |
|---|---|---|---|---|---|---|---|---|
| 3.0 | 45000 | | | | | | | 3.0 |
| 3.5 | 36000 | | | | | | | 3.5 |
| 4.0 | 34000 | 22500 | 21000 | | | | | 4.0 |
| 4.5 | 31500 | 22500 | 21000 | 20000 | | | | 4.5 |
| 5.0 | 29000 | 22500 | 21000 | 19500 | 16500 | | | 5.0 |
| 5.5 | 26000 | 22500 | 21000 | 19000 | 16200 | 13800 | | 5.5 |
| 6.0 | 23700 | 22000 | 20500 | 18500 | 16000 | 13500 | | 6.0 |
| 6.5 | 21600 | 21300 | 20000 | 18000 | 15200 | 13100 | 11000 | 6.5 |
| 7.0 | 20000 | 20500 | 19000 | 17000 | 14500 | 12800 | 10500 | 7.0 |
| 7.5 | 18000 | 18300 | 18000 | 16000 | 14100 | 12500 | 10000 | 7.5 |
| 8.0 | 15000 | 16600 | 17000 | 15000 | 13800 | 11800 | 9700 | 8.0 |
| 9.0 | | 13500 | 14000 | 13000 | 12800 | 11000 | 9300 | 9.0 |
| 10.0 | | 10800 | 11500 | 11200 | 11300 | 10200 | 8700 | 10.0 |
| 12.0 | | 7500 | 8300 | 8200 | 8100 | 8000 | 7500 | 12.0 |
| 14.0 | | | 6000 | 6200 | 6200 | 6300 | 6300 | 14.0 |
| 16.0 | | | 4500 | 4800 | 4900 | 5000 | 5000 | 16.0 |
| 18.0 | | | 3500 | 3600 | 3700 | 3900 | 4000 | 18.0 |
| 20.0 | | | | 2700 | 3000 | 3200 | 3300 | 20.0 |
| 22.0 | | | | | 2200 | 2400 | 2600 | 22.0 |
| 24.0 | | | | | | 1900 | 2100 | 24.0 |
| 26.0 | | | | | | 1500 | 1750 | 26.0 |
| 28.0 | | | | | | | 1450 | 28.0 |
| 30.0 | | | | | | | 1100 | 30.0 |
| 32.0 | | | | | | | 700 | 32.0 |
| Telescoping status (%) 伸缩模式 | | | | | | | | |
| 2nd/3rd/Top boom 二 / 三 / 四节臂 | 0 | 20 | 40 | 50 | 60 | 80 | 100 | 2nd/3rd/Top boom 二 / 三 / 四节臂 |
| Rope rate 钢丝绳倍率 | 8/10* | 6 | 6 | 5 | 4 | 4 | 3 | Rope rate 钢丝绳倍率 |
| Min. angle (°) 最小角度 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Min. angle (°) 最小角度 |
| Load at min. angle 最小角度吊重 | 12000 | 5800 | 3200 | 2700 | 2000 | 1200 | 600 | Load at min. angle 最小角度吊重 |

* With attachment sheave at 10 parts of line when the lifting capacity is over 40000kg.
* 当吊载超过 40000kg 时，使用辅助滑轮配 10 倍率。

# Load Chart-Telescopic Boom

## 性能表 - 主臂




Unit: kg

| Radius (m) 幅度 | 10.8 | 15.6 | 20.5 | 22.9 | 25.3 | 30.2 | 35.0 | Radius (m) 幅度 |
|---|---|---|---|---|---|---|---|---|
| 3.0 | 37000 | | | | | | | 3.0 |
| 3.5 | 34000 | | | | | | | 3.5 |
| 4.0 | 30000 | 20500 | 19000 | | | | | 4.0 |
| 4.5 | 27000 | 20500 | 19000 | 18000 | | | | 4.5 |
| 5.0 | 22000 | 20500 | 19000 | 17500 | 14500 | | | 5.0 |
| 5.5 | 18000 | 18000 | 17500 | 17000 | 14000 | 12000 | | 5.5 |
| 6.0 | 15500 | 16000 | 16000 | 15800 | 13500 | 11500 | | 6.0 |
| 6.5 | 13000 | 13800 | 14000 | 14000 | 13000 | 11000 | 9500 | 6.5 |
| 7.0 | 11500 | 11800 | 11800 | 12000 | 12000 | 10500 | 9000 | 7.0 |
| 7.5 | 9500 | 10400 | 10300 | 10500 | 10500 | 10000 | 8500 | 7.5 |
| 8.0 | 8500 | 9200 | 9200 | 9400 | 9500 | 9500 | 8000 | 8.0 |
| 9.0 | | 7500 | 7500 | 7600 | 7700 | 7800 | 7500 | 9.0 |
| 10.0 | | 6200 | 6200 | 6300 | 6400 | 6500 | 6400 | 10.0 |
| 12.0 | | 4400 | 4500 | 4600 | 4700 | 4800 | 4700 | 12.0 |
| 14.0 | | | 3300 | 3400 | 3500 | 3600 | 3500 | 14.0 |
| 16.0 | | | 2500 | 2600 | 2700 | 2700 | 2600 | 16.0 |
| 18.0 | | | 1900 | 2000 | 2100 | 2100 | 2100 | 18.0 |
| 20.0 | | | | 1500 | 1600 | 1600 | 1600 | 20.0 |
| 22.0 | | | | | 1000 | 1100 | 1200 | 22.0 |
| 24.0 | | | | | | 800 | 900 | 24.0 |
| Telescoping status (%) 伸缩模式 | | | | | | | | |
| 2nd/3rd/Top boom 二 / 三 / 四节臂 | 0 | 20 | 40 | 50 | 60 | 80 | 100 | 2nd/3rd/Top boom 二 / 三 / 四节臂 |
| Rope rate 钢丝绳倍率 | 8 | 6 | 5 | 5 | 4 | 4 | 3 | Rope rate 钢丝绳倍率 |
| Min. angle (°) 最小角度 | 0 | 0 | 0 | 0 | 0 | 30 | 40 | Min. angle (°) 最小角度 |
| Load at min. angle 最小角度吊重 | 6500 | 3000 | 1300 | 800 | 600 | 600 | 600 | Load at min. angle 最小角度吊重 |

# Load Chart-Telescopic Boom
## 性能表 - 主臂

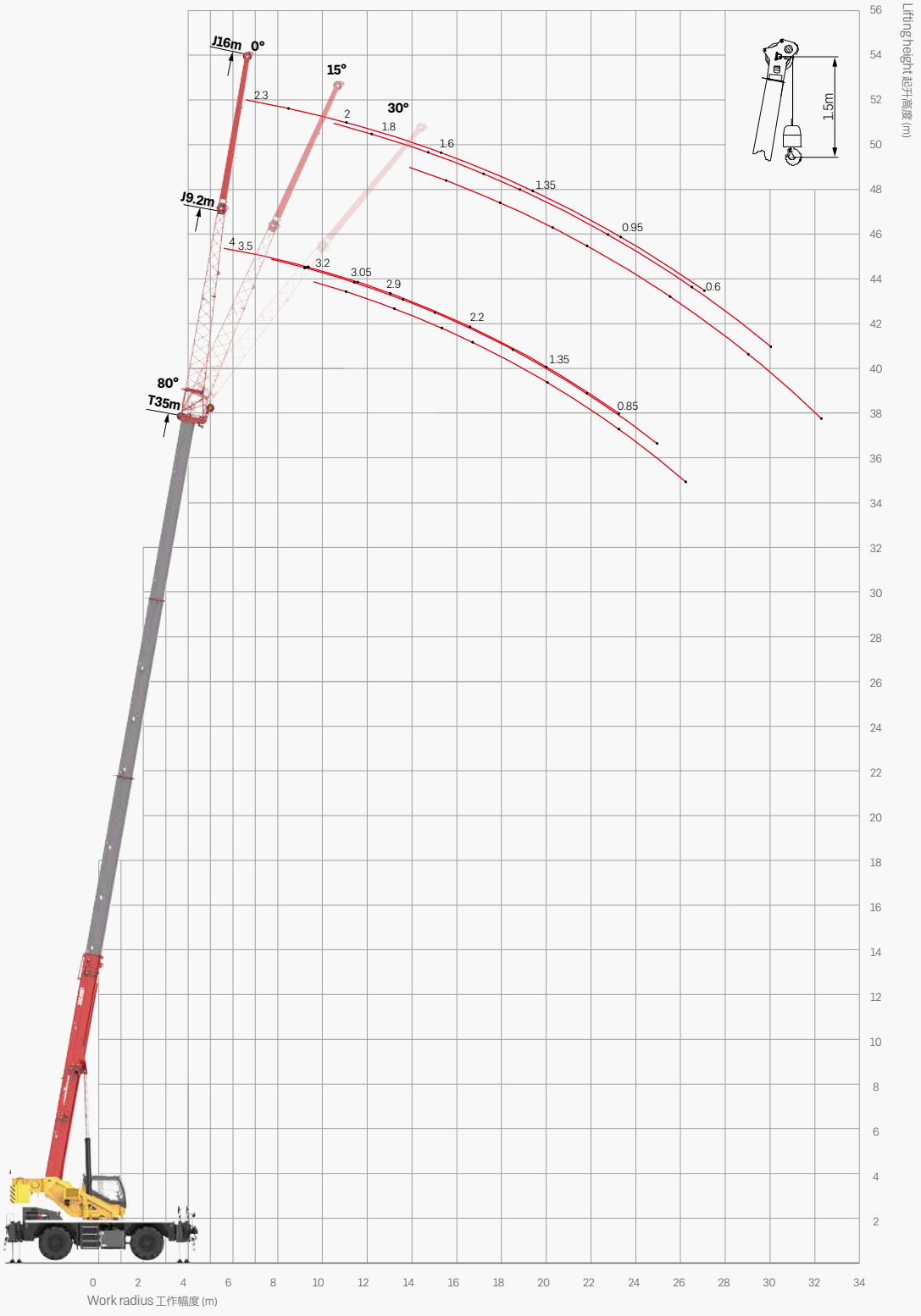



| Radius (m) 幅度 | 10.8 | 15.6 | 20.5 | 22.9 | 25.3 | 30.2 | 35.0 | Radius (m) 幅度 |
|---|---|---|---|---|---|---|---|---|
| 3.0 | 25500 | | | | | | | 3.0 |
| 3.5 | 18800 | 18000 | | | | | | 3.5 |
| 4.0 | 14700 | 14500 | 14500 | | | | | 4.0 |
| 4.5 | 11800 | 12000 | 12200 | 12500 | | | | 4.5 |
| 5.0 | 9600 | 9900 | 10200 | 10300 | 10400 | | | 5.0 |
| 5.5 | 8200 | 8600 | 8700 | 8800 | 8900 | 9000 | | 5.5 |
| 6.0 | 7000 | 7500 | 7700 | 7800 | 7900 | 8000 | | 6.0 |
| 6.5 | 6000 | 6400 | 6650 | 6700 | 6750 | 6800 | 7000 | 6.5 |
| 7.0 | 5200 | 5400 | 5700 | 5800 | 5850 | 5900 | 6000 | 7.0 |
| 7.5 | 4200 | 4700 | 4900 | 5150 | 5200 | 5250 | 5300 | 7.5 |
| 8.0 | 3500 | 4100 | 4450 | 4550 | 4600 | 4650 | 4700 | 8.0 |
| 9.0 | | 3200 | 3550 | 3700 | 3750 | 3800 | 3850 | 9.0 |
| 10.0 | | 2600 | 2700 | 2800 | 2950 | 3000 | 3100 | 10.0 |
| 12.0 | | 1600 | 1900 | 2000 | 2000 | 2100 | 2100 | 12.0 |
| 14.0 | | | 1250 | 1300 | 1300 | 1350 | 1400 | 14.0 |
| 16.0 | | | 700 | 800 | 850 | 850 | 900 | 16.0 |
| Telescoping status (%) 伸缩模式 | | | | | | | | |
| 2nd/3rd/Top boom 二 / 三 / 四节臂 | 0 | 20 | 40 | 50 | 60 | 80 | 100 | 2nd/3rd/Top boom 二 / 三 / 四节臂 |
| Rope rate 钢丝绳倍率 | 6 | 6 | 4 | 4 | 4 | 4 | 3 | Rope rate 钢丝绳倍率 |
| Min. angle (°) 最小角度 | 0 | 0 | 28 | 38 | 44 | 53 | 58 | Min. angle (°) 最小角度 |
| Load at min. angle 最小角度吊重 | 2500 | 800 | 600 | 600 | 600 | 600 | 600 | Load at min. angle 最小角度吊重 |

Remark
1. Load capacity in the chart is the maximum weight which this crane could hoist include the weight of hook blocks and riggings. The main hook weighs 320kg, the aux. hook weighs 85kg.
2. Radius shown in the chart is the actual radius when loading.
3. The load capacity in the chart is the maximum weight when this crane is supported with the firm ground and stays in level.
4. Choose rated load capacity of the longer boom and radius when the actual boom length and radius are between two values in the charts.
5. The machine can be used only when the wind power is less than grade 6.

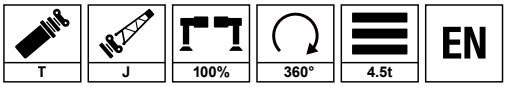
1. 性能表中额定起重量包括起重钩 ( 主钩重 320kg，副钩重 85kg) 和吊具的重量。
2. 性能表中工作幅度是指吊载后的实际幅度。
3. 性能表中给定数值是在平整坚固的地面上，整机调平状态下起重机的最大起重量。
4. 如实际臂长和幅度介于两个数值之间时，取较长的臂长及较大的幅度所决定的额定起重量进行起重作业。
5. 起重作业风力等级需低于 6 级。

# Operating Range - Fixed Jib
## 起升高度曲线 - 副臂



# Load Chart - Fixed Jib

## 性能表 - 副臂




Unit: kg

| Boom angle 主臂仰角 (°) | 35m+9.2m | | | 35m+16m | | | Boom angle 主臂仰角 (°) |
|---|---|---|---|---|---|---|---|
| | 0° | 15° | 30° | 0° | 15° | 30° | |
| 80 | 4000 | 2900 | 2300 | 2300 | 1400 | 1000 | 80 |
| 78 | 3500 | 2800 | 2200 | 2200 | 1350 | 950 | 78 |
| 75 | 3200 | 2500 | 2000 | 2000 | 1200 | 900 | 75 |
| 72 | 3050 | 2200 | 1850 | 1800 | 1100 | 840 | 72 |
| 70 | 2900 | 2000 | 1800 | 1600 | 1000 | 800 | 70 |
| 65 | 2200 | 1600 | 1550 | 1350 | 900 | 720 | 65 |
| 60 | 1350 | 1100 | 950 | 950 | 750 | 670 | 60 |
| 55 | 850 | 750 | 650 | 600 | 500 | | 55 |
| Min. angle (°) 最小角度 | 53 | 53 | 53 | 53 | 53 | 58 | Min. angle (°) 最小角度 |
| Load at min. angle 最小角度吊重 | 500 | 400 | 300 | 400 | 300 | 300 | Load at min. angle 最小角度吊重 |

# Load Chart - Telescopic Boom, Pick & Carry, Load Over Front

## 性能表 - 主臂带载行驶（正前方）




Unit: kg

| Radius (m) 幅度 | 10.8 | 15.6 | 20.5 | 22.9 | Radius (m) 幅度 |
|---|---|---|---|---|---|
| 3.0 | 12500 | 11500 | | | 3.0 |
| 3.5 | 11100 | 10000 | | | 3.5 |
| 4.0 | 9900 | 9000 | 8800 | | 4.0 |
| 4.5 | 9000 | 8800 | 8500 | 8200 | 4.5 |
| 5.0 | 8000 | 8200 | 8200 | 8000 | 5.0 |
| 5.5 | 7200 | 7600 | 7800 | 7500 | 5.5 |
| 6.0 | 6400 | 6800 | 7000 | 7000 | 6.0 |
| 6.5 | 5800 | 6200 | 6400 | 6600 | 6.5 |
| 7.0 | 5300 | 5700 | 5900 | 6100 | 7.0 |
| 7.5 | 4800 | 5200 | 5400 | 5600 | 7.5 |
| 8.0 | 4100 | 4700 | 4900 | 5000 | 8.0 |
| 9.0 | | 3800 | 4000 | 4100 | 9.0 |
| 10.0 | | 3000 | 3300 | 3400 | 10.0 |
| 12.0 | | 2000 | 2200 | 2300 | 12.0 |
| 14.0 | | | 1500 | 1600 | 14.0 |
| 16.0 | | | 1000 | 1000 | 16.0 |
| Telescoping status (%) 伸缩模式 | | | | | |
| 2nd/3rd/Top boom 二 / 三 / 四节臂 | 0 | 20 | 40 | 50 | 2nd/3rd/Top boom 二 / 三 / 四节臂 |
| Rope rate 钢丝绳倍率 | 4 | 4 | 4 | 4 | Rope rate 钢丝绳倍率 |
| Min. angle (°) 最小角度 | 0 | 0 | 0 | 0 | Min. angle (°) 最小角度 |
| Load at min. angle 最小角度吊重 | 3000 | 800 | 600 | 600 | Load at min. angle 最小角度吊重 |

# Load Chart - Telescopic Boom, On Tires Stationary, Load Over Front

## 性能表 - 轮胎静止吊载（正前方）




Unit: kg

| Radius (m)<br>幅度 | 10.8 | 15.6 | 20.5 | 22.9 | Radius (m)<br>幅度 |
|---|---|---|---|---|---|
| 3.0 | 15500 | 14000 | | | 3.0 |
| 3.5 | 13500 | 12800 | | | 3.5 |
| 4.0 | 12000 | 11500 | 11500 | | 4.0 |
| 4.5 | 11000 | 10200 | 10500 | 10500 | 4.5 |
| 5.0 | 10000 | 9300 | 9500 | 9500 | 5.0 |
| 5.5 | 9000 | 8500 | 8700 | 9000 | 5.5 |
| 6.0 | 7500 | 7800 | 8000 | 8000 | 6.0 |
| 6.5 | 6500 | 7100 | 7300 | 7400 | 6.5 |
| 7.0 | 5700 | 6200 | 6500 | 6600 | 7.0 |
| 7.5 | 5000 | 5500 | 5800 | 5900 | 7.5 |
| 8.0 | 4400 | 4900 | 5200 | 5200 | 8.0 |
| 9.0 | | 4000 | 4200 | 4200 | 9.0 |
| 10.0 | | 3200 | 3500 | 3500 | 10.0 |
| 12.0 | | 2100 | 2400 | 2400 | 12.0 |
| 14.0 | | | 1600 | 1700 | 14.0 |
| 16.0 | | | 1100 | 1100 | 16.0 |
| Telescoping status (%) 伸缩模式 | | | | | |
| 2nd/3rd/Top boom<br>二 / 三 / 四节臂 | 0 | 20 | 40 | 50 | 2nd/3rd/Top boom<br>二 / 三 / 四节臂 |
| Rope rate<br>钢丝绳倍率 | 4 | 4 | 4 | 4 | Rope rate<br>钢丝绳倍率 |
| Min. angle (°)<br>最小角度 | 0 | 0 | 25 | 35 | Min. angle (°)<br>最小角度 |
| Load at min. angle<br>最小角度吊重 | 3500 | 1000 | 600 | 600 | Load at min. angle<br>最小角度吊重 |

# Load Chart - Telescopic Boom, On Tires Stationary, 360° Slewing

## 性能表 - 轮胎静止吊载（360°）




Unit: kg

| Radius (m) 幅度 | 10.8 | 15.6 | 20.5 | 22.9 | Radius (m) 幅度 |
|---|---|---|---|---|---|
| 3.0 | 12000 | 11000 | | | 3.0 |
| 3.5 | 10000 | 10000 | | | 3.5 |
| 4.0 | 8500 | 9000 | 9300 | | 4.0 |
| 4.5 | 7400 | 7700 | 8000 | 8100 | 4.5 |
| 5.0 | 6200 | 6500 | 6800 | 7000 | 5.0 |
| 5.5 | 5300 | 5600 | 5900 | 6100 | 5.5 |
| 6.0 | 4500 | 4700 | 4900 | 5100 | 6.0 |
| 6.5 | 3800 | 4100 | 4300 | 4500 | 6.5 |
| 7.0 | 3400 | 3600 | 3800 | 3900 | 7.0 |
| 7.5 | 2800 | 3200 | 3400 | 3500 | 7.5 |
| 8.0 | 2300 | 2800 | 3000 | 3100 | 8.0 |
| 9.0 | | 2000 | 2200 | 2300 | 9.0 |
| 10.0 | | 1500 | 1600 | 1700 | 10.0 |
| 12.0 | | 1000 | 1100 | 1100 | 12.0 |
| Telescoping status (%) 伸缩模式 | | | | | |
| 2nd/3rd/Top boom 二 / 三 / 四节臂 | 0 | 20 | 40 | 50 | 2nd/3rd/Top boom 二 / 三 / 四节臂 |
| Rope rate 钢丝绳倍率 | 4 | 4 | 4 | 4 | Rope rate 钢丝绳倍率 |
| Min. angle (°) 最小角度 | 0 | 26 | 46 | 52 | Min. angle (°) 最小角度 |
| Load at min. angle 最小角度吊重 | 1000 | 600 | 600 | 600 | Load at min. angle 最小角度吊重 |
| Max. angle (°) 最大角度 | 70 | 75 | 80 | 80 | Max. angle (°) 最大角度 |

Remark
1. Capacities are applicable at 725kPa cold tire inflation pressure.
2. Capacities are applicable only with machine on firm level surface.
3. On tire lifting with the jib mounted is not permitted.
4. Axle lockouts must be applied when lifting on tires.
5. Parking brake must be applied when lifting on tires stationary.
6. Driving speed shall be ≤4km/h at pick & carry mode.

1. 冷态轮胎气压需保持 725kPa。
2. 起重机需在平整坚固的地面上作业。
3. 轮胎吊载工况不允许使用副臂吊载。
4. 轮胎吊载工况中，车桥悬挂需锁定。
5. 轮胎静止吊载工况中，需使用驻车制动。
6. 带载行驶工况中，直线行驶速度需小于等于 4km/h。

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Reminder:
Any change in the technical parameters and configuration due to product modification or upgrade may occur without prior notice.
The machine in the picture may include additional equipment. This brochure is for reference only, and goods in kind shall prevail.
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## 三一集团起重机事业部

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