

QUALITY CHANGES THE WORLD

PRODUCT  
SPECIFICATIONS



# STC400T

SANY TRUCK CRANE  
40T LIFTING CAPACITY

40T汽车起重机



40 t



44.5 m



1590 kN·m

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左舵可售  
LEFT HAND DRIVE AVAILABLE

VI.1

## SANY TRUCK CRANE STC400T / 40T LIFTING CAPACITY

- 起重臂采用高强度结构钢,截面为 U 形大圆弧截面,5 节臂。
- 全新设计的双变量柱塞泵智能流量分配系统,微动性好
- Five section boom is welded by high-strength structural steel in U shape cross section.
- Newly designed smart flow distribution system of double variable piston pump, featuring excellent inching motion.

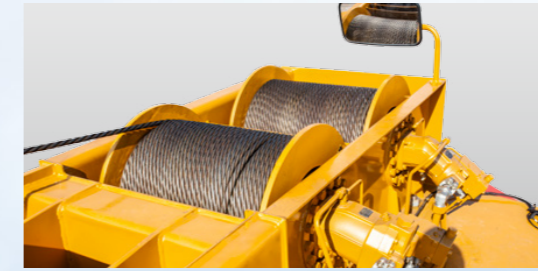


- 侧置下翻副臂,展开需求空间更小,适用于城市建设。
- Side positioned two-piece jib flips up from boom belly, less space needed, more suitable for urban construction.



### 操纵室人性化设计 More user friendly cab

- 全新造型仪表盘、扶手箱,增加轿车配置“桃木纹”,简洁、实用、耐看。
- 内部空间优化,冷暖空调立体出风,全景天窗,伸缩遮阳帘,全宽可调座椅,舒适作业,视野开阔
- 两种模式,“节能”和“强劲”一键切换
- Newly shaped instrument panel and armrest box, adopting sedan-class "peach wood grain", simple yet eye pleasing.
- Indoor space is optimized. 3D airflow HVAC, panoramic skylight with rollable sunshade, wide adjustable seat, enhancing comfort and visibility.
- One button switch of eco and strong working modes.



- 卷扬采用高品质马达,作业速度更高效,重物起落平稳。主卷扬配置三圈保护器,防止钢丝绳过放。
- High quality winch motor raises working efficiency and hoisting smoothness. Main winch is protected via three-circle indicator, preventing wire rope from over hoist-down.



- 固定配重 5.5t,活动配重 3.1t,机动灵活。
- Fixed CW 5.5t, movable CW 3.1t, to be used flexibly.



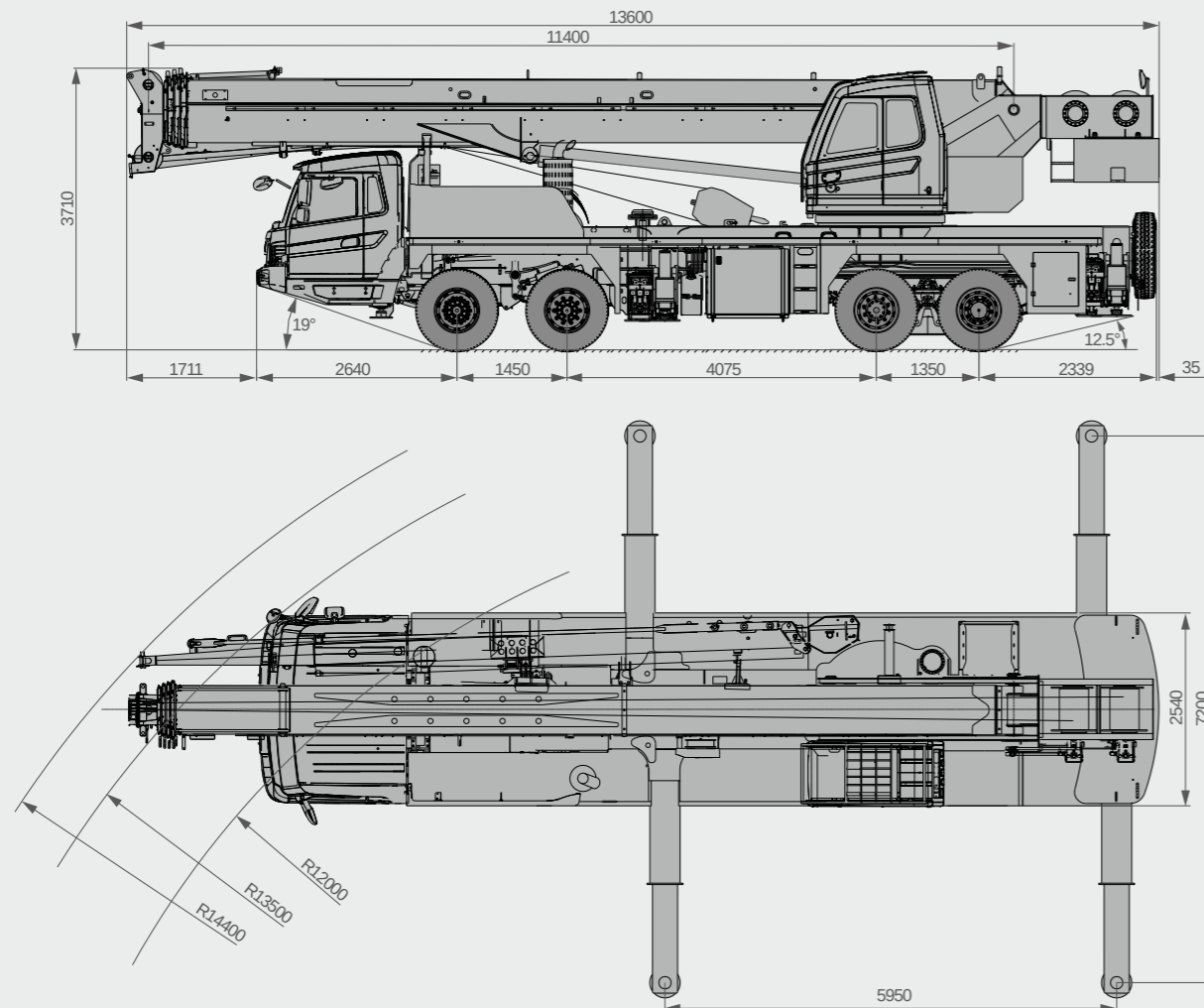
- G 类底盘,通过性好,适应多种路况
- G-class chassis, adaptable for multiple road conditions.



- 最高行驶速度超过 85km/h,最大爬坡度 40%,动力强劲。
- The crane is driven by strong power, with max. traveling speed 85km/h and max. gradeability 40%.



## 整机尺寸图 Overall Dimensions



## 主要性能参数 Technical Specification

类型 CATEGORY	项目 ITEM	单位 UNIT	参数 VALUE	
额定起重量 CAPACITY	最大起重量 Max. lifting capacity	t	40	
重量参数 WEIGHT	整机总质量 Gross weight	kg	39400	
发动机参数 POWER	发动机型号 (排放标准) Engine model	-	东风康明斯 ISLe34030(欧3) DF CUMMINS ISLe34030(Euro 3)	
	发动机最大功率 Max. engine power	kW/rpm	250/2100	
	发动机最大输出扭矩 Max. engine torque	N·m/rpm	1425/1400	
尺寸参数 DIMENSIONS	整机全长 Overall length	mm	13600	
	整机全宽 Overall width	mm	2550	
	整机全高 Overall height	mm	3710	
行驶参数 TRAVEL	最高行驶速度 Max. travel speed	km/h	85	
	转弯半径 Steering radius	最小转弯半径 Min.steering radius	m	12
		臂头最小转弯半径 Min.steering radius of boom tip	m	14.4
	车轮模式 Wheel formula	-	8×4	
	最小离地间隙 Min.ground clearance	mm	258	
	接近角 Approach angle	°	19	
	离去角 Departure angle	°	12.5	
	最大爬坡度 Max.gradeability	%	40	
	每 100 公里油耗 Fuel consumption per 100km	L	40	
	使用温度区间 Working temperature range	°C	-20~+40	
主要性能参数 MAIN PERFORMANCE	最小额定幅度 Min.rated lifting radius	m	3	
	转台尾部回转半径 Tail slewing radius	m	3.7	
	臂节数 Boom sections (Qty.)	-	5	
	臂形状 Boom shape	-	U 形 U shape	
	最大起重力矩 Max.lifting moment	基本臂 Basic boom	kN·m	1590
		全伸主臂 Full-extension boom	kN·m	1019
		全伸主臂 + 副臂 Full-extension boom + jib	kN·m	312
	臂长 Boom length	基本臂 Basic boom	m	11.4
		全伸主臂 Full-extension boom	m	44.5
		全伸主臂 + 副臂 Full-extension boom + jib	m	59.1
最大起重高度 Max.lifting height	基本臂 Basic boom	m	12	
	全伸主臂 Full-extension boom	m	45	
	全伸主臂 + 副臂 Full-extension boom + jib	m	59.5	
支腿跨距 (纵 × 横) Outrigger span (Longitudinal × Transverse)	m	5.95 × 7.2		
副臂安装角度 Jib offset	°	5、25、45		
空调 AIRCONDITIONER	上车空调 In operator's cab	-	制冷、制热 Heating & cooling	
	下车空调 In driver's cab	-	制冷、制热 Heating & cooling	

## 主要参数表 Technical Parameters



轴荷 Axle Load

轴 Axle	1	2	3	4	总重量 Gross weight
轴荷 Axle load /kg	7000	7000	12700	12700	39400



吊钩 Hook

额载 Rated load/t	滑轮数量 Number of sheaves	倍率 Rope rate	吊钩重量 Hook weight /kg
40	5	10	405
5	-	1	90



主要动作参数 Operations

项目 Item	单绳速度 (空载) Max.single rope lifting speed (empty load)	钢丝绳直径 / 长度 Rope diameter/length	最大单绳拉力 Max. single line pull
主卷扬 Main winch	125m/min	16mm/220m	4.1t
副卷扬 Auxiliary winch	125m/min	16mm/125m	4.1t
回转速度 Slewing speed		2.1r/min	
主臂起落幅时间 Full luffing up/ down time of boom		50s/60s	
主臂伸缩时间 Full extension/retraction time of boom		110s/120s	
垂直支腿 Outrigger jack	收 Retraction	35s	
	放 Extension	35s	
水平支腿 Outrigger beam	收 Retraction	25s	
	放 Extension	25s	

## 整机介绍 Crane Introduction

Carrier 下车

### 驾驶室 Driver's cab

- 自主开发全宽钢整体式钢结构驾驶室，采用人体工程学原理设计，减震性和封闭性优良。
- Self-developed integral steel structure cab in ergonomic design, featuring vibration and external noise isolation.

### 车架 Carrier frame

- 三一设计、制造，由细晶粒高强度钢板焊接而成的防扭转箱形结构，承载能力强。
- Designed and manufactured by Sany, the torsion resistant box-type structure is welded by fine grain high-strength steel, featuring increased bearing capacity.

### 发动机 Engine

- 型式：东康，直列六缸、水冷却、增压中冷、柴油发动机。
- 排放标准：欧 III。
- 燃料箱有效容积：350L。
- Model: DF CUMMINS inline six-cylinder diesel engine with watercooler and inter cooler.
- Emission standard: Euro 3.
- Fuel reservoir capacity: 350L.

### 变速箱 Transmission

- 手动带同步器变速箱，9 挡，速比范围大，既可满足低速场地爬坡 行驶，又可满足高速行驶。
- 9-speed manual transmission with synchronizer, large speed ratio range, adaptable to slope climbing and high-speed traveling.

### 传动轴 Transmission shaft

- 优化的传动轴布置，传动轴传动平稳、可靠。最优化力传输，采用端面齿联结传动轴，传递扭矩大。
- Optimized layout, higher torque output via contrate gear connecting transmission shaft cardan.

### 车桥 Axle

- 3、4 轴为驱动轴，1、2 轴为转向轴，驱动轴内置轴间和轮间差速器锁，使车辆有更强的脱困能力；双级减速，桥包体积更小，使车辆有更好的通过性。
- Axles 1, 2 are steered; axles 3, 4 are drive axles with built-in differential lock, realizing tougher ability to rough-terrain travelling. Two-stage reducer gear and more compact axle bags contribute to better trafficability.

### 悬挂 Suspension system

- 一二桥采用钢板弹簧悬挂系统，三四桥采用橡胶悬挂系统，悬挂系统经过超过 10 万次的疲劳试验，保证强度的同时兼顾乘坐的舒适性。
- Front suspension is realized by leaf spring, and rear rubber. The system's strength is verified by 100,000 cycling fatigue tests, and ride comfort is ensured.

### 转向系统 Steering

- 机械式转向机构，采用杆系反馈的液压助力转向系统。
- Mechanical steering with hydro booster. Turn your steering wheel more easily.

### 轮胎 Tires

- 12 个午线轮胎，规格：12R22.5，承载能力强，耐用。
- Twelve radial tires sized 12R22.5, strong bearing capacity and durability.

### 车轮模式 Wheel formula

- 8 x4 x 4

### 制动系统 Brake

- 制动系统包括行车制动、驻车制动、应急制动和辅助制动。
- Four brake systems including service brake, parking brake, emergency brake, and assisting brake:

### 电气系统 Electrical system

- 2 × 12V 免维护蓄电池，总线控制系统，可实现上下车信息交互。
- 2\*12V maintenance-free battery. CAN instrument, data integration between superstructure and chassis.

# 整机介绍 Crane Introduction

## 操纵室 Operator's cab

- 三一自主研发人体工程学设计，安全玻璃，耐腐蚀钢板，配置软化内饰、超大内部空间、全景式天窗、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。
- The cab is designed in ergonomic concept with deep consideration of convenience, safety, and comfort. Corrosion resistant bodywork with softened interior trim and extra large indoor space, the skylight, adjustable seat, air conditioning, electric windshield wiper, and LMI touch screen make working on the crane more comfortable.

## 伸缩臂架系统 Boom & telescoping system

- U型臂结构采用抗扭曲设计，采用进口高强度钢板制作，具有极高的稳定性，伸缩采用油缸加绳排结构。
- Bending resistant U shape boom welded by high tensile steel plate features high stability. Telescoping is realized by two cylinders with rope arranger.

## 起升系统 Hoist

- 常闭式卷扬制动器，并设置卷扬平衡阀，可防止落钩失速。标配40t吊钩，阻旋转钢丝绳（主）。
- Hoist smoothness is guaranteed by the perfect combo of normally closed type winch brake and winch balance valve. 40t main hook block, rotation resistant wire rope.

## 变幅系统 Luffing system

- 自重落幅，更加节能。采用单根油缸，前铰支布置，变幅更省力且起重臂受力得到改善；变幅角度： $-2^{\circ} \sim 80^{\circ}$ 。
- Passive luffing down, reducing energy cost. One luffing cylinder with hinge positioned to the front, making motion easier and boom stress optimized. Luffing angle:  $-2^{\circ} \sim 80^{\circ}$  .

## 液压系统 Hydraulics

- 采用高品质的油泵、马达、阀等关键液压元件，保证液压系统稳定、可靠；
- Main oil pump, motor, valve and other key hydraulic components are of high quality and high durability, ensuring hydraulics to function smoothly and reliably.

## 控制系统 Control system

- 整车数据显示系统：配置丰富的传感器件，及时反馈数据信息，实现实时监控，确保随时掌控整车工作状态。
- 人机交互界面：人机交互界面设计人性化，信息丰富而清晰，客户可根据个人操作习惯和不同使用条件自行设置整车操控性，充分满足客户的个性化需求。
- Data display system: multiple sensors provide data feedback, realizing real-time monitoring. It helps you to monitor working status of the whole machine.
- Man-machine interface: user-friendly design, clear display. Crane control pattern can be adjusted in line with personal working habit and different operation conditions, which appeals to customers' demand to a large extent.

## 支腿 Outrigger

- H型支腿4点支撑，易操作、稳定性强；采用细晶粒高强度钢板材料，一、二级支腿液压油缸加绳排横向伸缩。垂直油缸采用双向液压锁进行安全保护。
- H-type layout, four point support, easy to operate, welded by fine grain high tensile steel plate. Two-stage outrigger beam hydraulically telescoping, outrigger jack telescoping protected by two-way pilot controlled valve.

## 配重 Counterweight

- 固定配重 5.5t+ 活动配重 3.1t。
- Fixed counterweight 5.5t, movable counterweight 3.1t.

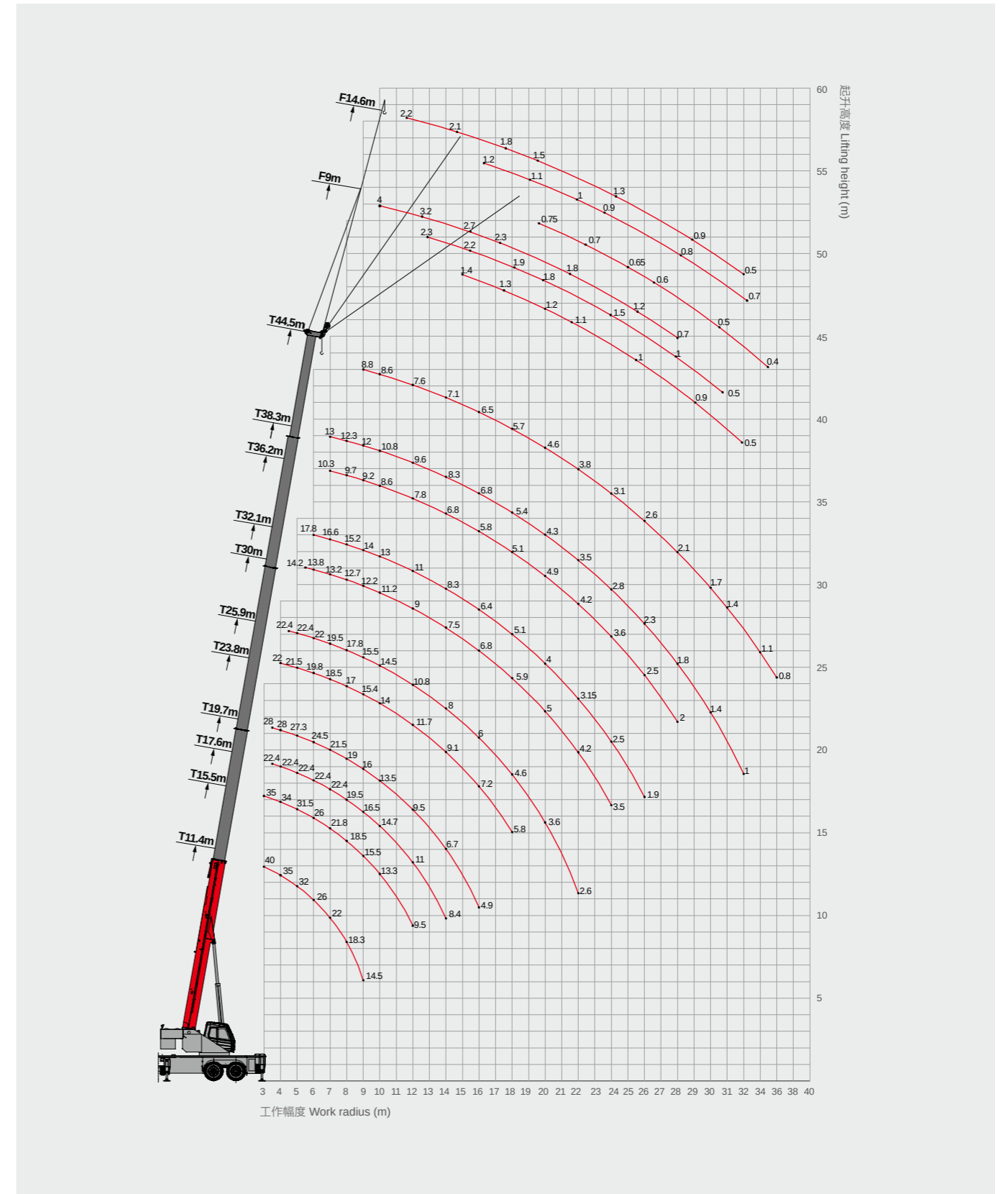
## 安全装置 Safety equipment

- 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，吊重精度达到  $\pm 5\%$ 。
- 液压系统配置液压平衡阀、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。
- Self developed LMI is set through analytical mechanics approach. Load accuracy is maintained in a range of  $\pm 5\%$  via online unloaded calibration.
- Hydraulic balance valve, relief valve, two-way pilot-controlled valve are equipped for hydraulic system reliability.
- Height limit switch at head of boom and fixed jib, preventing wire rope from over-hoist up.
- Boom length & angle sensor and stress sensor help monitor crane working status. Motion of risks are cut off automatically with buzzer warning simultaneously.

## 选配 Optional equipment at extra fees

- 灭火器支架
- 回转蜂鸣器
- 特殊涂装
- 其他选配据需求定
- Fire extinguisher bracket
- Slewing buzzer
- special painting
- Other equipment available upon request

# 起升高度 Operating Range



# 主臂性能表 Load Chart-Telescopic Boom



Unit: kg

幅度 Radius (m)	11.4	15.5	17.6	19.7	23.8	25.9	30	32.1	36.2	38.3	44.5	幅度 Radius (m)
3	40000	35000										3
3.5	36000	35000	22400	28000								3.5
4	35000	34000	22400	28000	22000							4
4.5	33500	33500	22400	28000	22000	22400						4.5
5	32000	31500	22400	27300	21500	22400						5
5.5	29500	28500	22400	25500	20500	22400	14200					5.5
6	26000	26000	22400	24500	19800	22000	13800	17800				6
7	22000	21800	22000	21500	18500	19500	13200	16600	10300	13000		7
8	18300	18500	19500	19000	17000	17800	12700	15200	9700	12300		8
9	14500	15500	16500	16000	15400	15500	12200	14000	9200	12000	8800	9
10		13300	14700	13500	14000	14500	11200	13000	8600	10800	8600	10
12		9500	11000	9500	11700	10800	9000	11000	7800	9600	7800	12
14			8400	6700	9100	8000	7500	8300	6800	8300	7100	14
16				4900	7200	6000	6800	6400	5800	6800	6500	16
18					5800	4600	5900	5050	5100	5400	5700	18
20						3600	5000	4000	4900	4300	4600	20
22							2600	4200	3150	4200	3500	22
24								3500	2500	3600	2800	24
26									1900	3100	2300	26
28										2500	1800	28
30										2000	1400	30
32											1000	32
34												34
36												36
伸缩模式 Telescoping status												
一号缸 Cylinder I	0%	50%	0%	100%	0%	100%	0%	100%	0%	100%	100%	一号缸 Cylinder I
二号缸 Cylinder II	0%	0%	25%	0%	50%	25%	75%	50%	100%	75%	100%	二号缸 Cylinder II
钢丝绳倍率 Rope rate	10	10	7	8	6	6	4	5	3	4	3	钢丝绳倍率 Rope rate

# 副臂性能表 Load Chart-Jib



Unit: kg

主臂 + 副臂长度 Telescopic boom + jib length							
主臂仰角 Boom angle(°)	44.5m+9m			44.5m+14.6m			主臂仰角 Boom angle(°)
	5°	25°	45°	5°	25°	45°	
78	4000	2300	1400	2200	1200	750	78
75	3200	2200	1300	2150	1100	700	75
72	2700	1900	1200	1800	1050	650	72
70	2300	1800	1150	1550	950	600	70
65	1800	1500	1000	1300	850	500	65
60	1200	1050	900	950	700	470	60
56	700	550	500	500			56

备注:

- 起重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额定起重量。
- 起重性能表中工作幅度是指吊载后的实际幅度。
- 起重性能表中额定起重量包括起重钩（主起重钩重 400kg，副起重钩重 90kg）和吊具的重量。
- 打开好第五支腿时，表中数值适用于全方位（360°）作业。
- 使用臂尖滑轮时额定起重量不超过 3500kg。若副起重臂处于展开状态，主臂起吊的额定起重量应减少 950kg。
- 如果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吊作业。

Remark:

- Value listed are the max. capacity when the crane is in a level condition on solid ground or surface;
- Radii listed are real radii with boom deflection considered;
- Value above are calculated with hooks and lifting slings considered (400kg main hook block, 90kg aux. hook block);
- When the fifth outrigger is landed in position, value listed are applicable for 360 degree operation;
- Rated lifting performance on boom point sheave shall be less than 3500kg; boom load capacity shall be 950kg less than value given when jib unfolds;
- Load value is given according to the larger radius or boom length value when the actual radius or boom length falls between two numbers above.



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