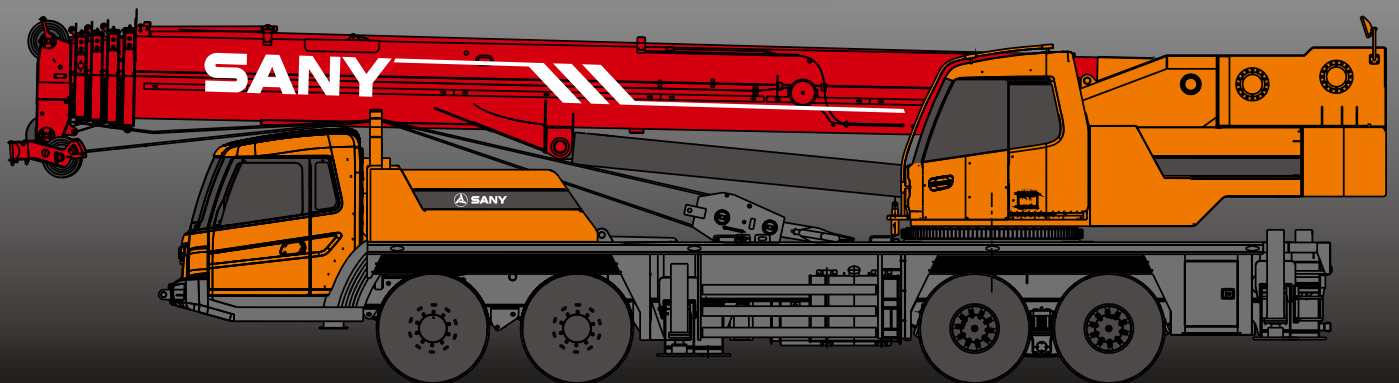


STC500C

STC500C TRUCK CRANE
50 TONS LIFTING CAPACITY

Quality Changes the World



SANY

■ SANY Automobile Hoisting Machinery is one of the core business unit of Sany Heavy Industry, mainly engaged in the research and development of high end, mid to large tonnage crane series, including mobile crane, crawler crane, tower crane and loader crane. It has two industrial parks in Ningxiang and Huzhou, since entering the market, the products of Sany Automobile Hoisting Machinery have received worldwide recognition with advanced technology, lean manufacturing, high reliability and excellent service.





SANY TRUCK CRANE

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Cab



Carrier frame



Suspension system



Hydraulic system



Outriggers



Telescopic boom



Control system



Engine



Lattice jibs



Telescopic system



Transmission system



Superlift devices



Luffing system



Drive/Steer



Luffing lattice jib



Slewing



Axles



winch mechanism:



Counterweight



Tyres



Safety system



Brakes system



Hoist system



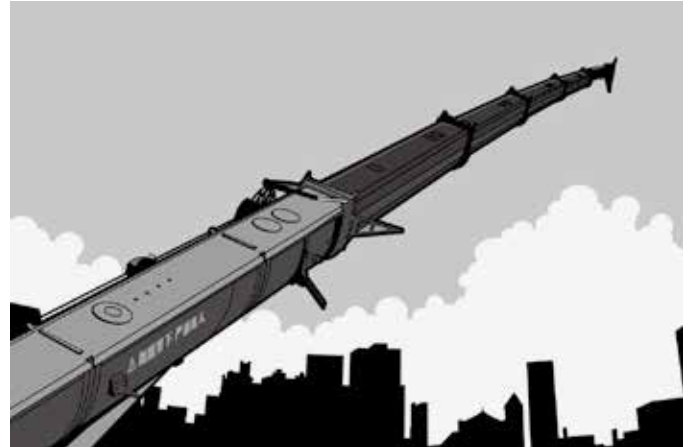
Electrical system



Excellent and stable chassis performance / chassis system

Double-axle drive is used, providing good trafficability and comfortableness under complex road condition with reliable traveling performance.

Engine has the multimode power output function, which reduces power consumption. The use of tipping over early-warning technology provides high stability and safety of the overall operation.



Ultra long, super strong and highly sensitive load lifting capacity

5-section and U-shaped boom is of high strength structure steel. The fully-extended boom is 43.5m and fully-extended boom with jib is 59.5m. the max. lifting height is 59.2m and max. lifting moment is 1886.5kN·m. The jib is optional.



Advanced chassis with great performance and trafficability

The width of the crane is 2.5m and the turning diameter is 22.5m which ensures great trafficability. Double axles drive, the max. traveling speed achieve 80km/h and the max. greadability is 40%. The rubber suspension is adopted to the rear axles to adsorb the shock.



Safe, stable, advanced, and intelligent electric control system

Self-developed controller SYMC specially for engineering machinery is configured. The adoption of CAN-bus full-digital network control technology ensures stable control signal, simple harness, and high reliability. Timely feedback of data information can achieve the monitoring of the overall working status in real-time; the load moment limiter equipped with the comprehensive intelligent protection system is used with accuracy within 3% to provide a comprehensive logic and interlock control, thus ensuring more safe and reliable operation.

Superstructure

Cab

- It is made of anti-corrosion steel plate with ergonomic design such as full-coverage soften interior, panoramic sunroof and, adjustable seats etc., and humanized design providing more comfortable and relaxing operation experience. The display of load moment limiter integrates main console and operation display system, which clearly show the data of all operating superstructure conditions for lifting operation.

Hydraulic system

- High-quality key hydraulic components such as main oil pump, rotary pump, main valve, winch motor, and balancing parts etc. are adopted to achieve stable and reliable operation of the hydraulic system. Superior operation performance is guaranteed by accurate parameter matching.
- Through the adoption of load sensitive variable displacement piston pump, pump displacement can be adjusted in real-time, achieving high-precision flow control with no energy loss during operation.
- Main valve has flow compensation and load feedback control function, enabling stable and convenient control of single action and combined action under different operation conditions
- Winch adopts the electronically controlled variable motor to ensure high operation efficiency. Max. single line speeds of main and auxiliary winches is up to 125m/min.
- Slewing system is equipped with the integrated slewing buffer valve with free slipping function to ensure more stable starting and control of the slewing operation and excellent micro-mobility.
- Hydraulic oil tank capacity: 740L.

Control system

- CAN-bus instrument: CAN-bus instrument with a combined intelligent control electrical system is used for easy reading of the traveling parameters at any time. The engine fault warning function is applied to ensure convenient and fast troubleshooting.
- With fully security protection system, main and auxiliary winches are equipped with over-rollback limiter and height limiters to prevent over-rolling out and over-hoisting of steel rope, including tip-over and limit angle protection.
- Load moment limiter: The adoption of high intelligent load moment limiter system can comprehensively protect lifting operation, ensuring accurate, stable and comfort operation.
- The fault diagnosis system can detect superstructure electricity, hydraulic action, chassis (for major safety failure), engine and gearbox for fault to ensure reliable operation of the crane.

Luffing system

- Dead-weight luffing provides more stable luffing operation at low energy loss.
- Luffing angle: $-2^{\circ} \sim 80^{\circ}$.

Telescopic system

- Five-section boom is applied with basic boom length of 11.3m, full-extended boom length of 43.5m, jib length of 16m and lifting height of fully extended boom length of 43.2m respectively. Max. lifting height is 59.2m including jib. It is made of fine grain high-strength steel with U-shaped cross section and with telescopic operation controlled independent by dual-cylinder rope.

Slewing system

- 360° rotation can be achieved with Max. slewing speed of 2.0r/min. Hydraulic controlled proportional speed adjustment is applied to provide stable and reliable operation of the system. Unique rotary buffer design ensures more stable braking.

Superstructure



Hoisting system

- The adoption of pump and motor double variable speed control ensures high efficiency and excellent energy saving functionality. With perfect combination of winch balance valve and unique anti-slip technology, heavy load can lift and lower smoothly. Closed winch brake and winch balance valve effectively prevent imbalance of the hook.
- One main hook: 555Kg, one auxiliary hook: 90Kg, and the Max. lifting height are 50t and 4t. Wire rope of main winch: left-handed wire rope 18-35W×7-1960USZ 220m. Wire rope of auxiliary winch: left-handed wire rope 18-35W×7-1960USZ 130m.



Safety system

- Load moment limiter: Load moment limiter calculation system based on lifting load mechanical model is established using an analytical mechanics method with rated lifting accuracy up to $\pm 3\%$ through on-line non-load calibration, providing full protection to lifting operation. In case of overload operation, system will automatically issue an alarm to provide safety protection for manipulation.
- Hydraulic system is configured with the balance valve, overflow valve and two-way hydraulic lock etc. components, thus achieving stable and reliable operation of the hydraulic system.
- Main and auxiliary winches are equipped with over roll-out limiter to prevent over rolling-out of wire rope.
- Boom and jib ends are equipped with height limiters respectively to prevent over-hoisting of wire rope.
- Boom head is equipped with anemometer and press sensor to indicate the working condition of whole crane in real-time, giving an alarm and cutting off the dangerous action automatically.



Counterweight

- Counterweight is 5000kg, no flexible counterweight.

Chassis



Cab

- Cab is made of new steel structure self-developed by SANY, featuring excellent shock absorption and tightness, which is configured with swing-out doors at both sides, pneumatically suspended driver's seat and passenger seat, adjustable steering wheel, large rearview mirror, comfort driver chair having a headrest, anti-fog fan, air conditioner, stereo radio, and complete control instruments and meters, providing more comfortable, safe, and humanized operation experience.



Carrier frame

- Designed and manufactured by SANY, anti-torsion box structure is welded by fine-grain high-strength steel plate, to provide strong load bearing capacity.



Axles

- Axle 3 and 4 are drive axles and axle 1 and 2 are steering axles. The use of welding process for axle housing provides stronger load bearing capacity.



Engine

- Type: Inline six-cylinder, water cooled, supercharged and inter-cooling diesel engine
- Environment-protection: Emission complies with EuroIV standard
- Capacity of fuel tank: 330L

Chassis



Transmission system

- Gearbox: Manual gearbox is adopted with 9-gear and large speed ratio range applied, which meets the requirements of low gradeability speed and high traveling speed.
- Transmission shaft: With optimized arrangement of the transmission shaft, the transmission is stable and reliable. For most optimized transmission, face-tooth coupling transmission shaft is used with large transmission torque .



Brakes system

- Air servo brakes are used for all wheels with dual-circuit brake system applied, engine is equipped with an exhaust brake.
- Brakes system includes traveling brake, parking brake, emergency brake and auxiliary brake.
- Traveling brake: All wheels use the air servo brakes and dual-circuit brake system.
- Parking brake: Force driven by accumulator is applied on the third to fourth axle.
- For emergency brake, accumulator is used not only for cutting-off brake but also for emergency brake.
- Auxiliary brake is exhaust brake with brake safety ensured while travelling downhill.



Suspension system

- The plate spring suspension is applied to axle 1 and 2 and rubber suspension is applied to axle 3 and 4. All suspensions have passed 100,000 fatigue tests to ensure both strength and comfort.



Steering system

- Hydraulic power mechanical steering systems are applied for axles 1 and 2 with unloading valve installed in the steering gear.



Outriggers

- Four-point supporting of the H-shaped outriggers ensures easy operation and strong stability with max. span up to 6m×7.2m. They are made of fine-grain high-strength steel sheet with horizontal single-cylinder rope line telescoping for first and second outriggers. Vertical cylinder of outrigger adopts bi- directional hydraulic locks to improve safety.



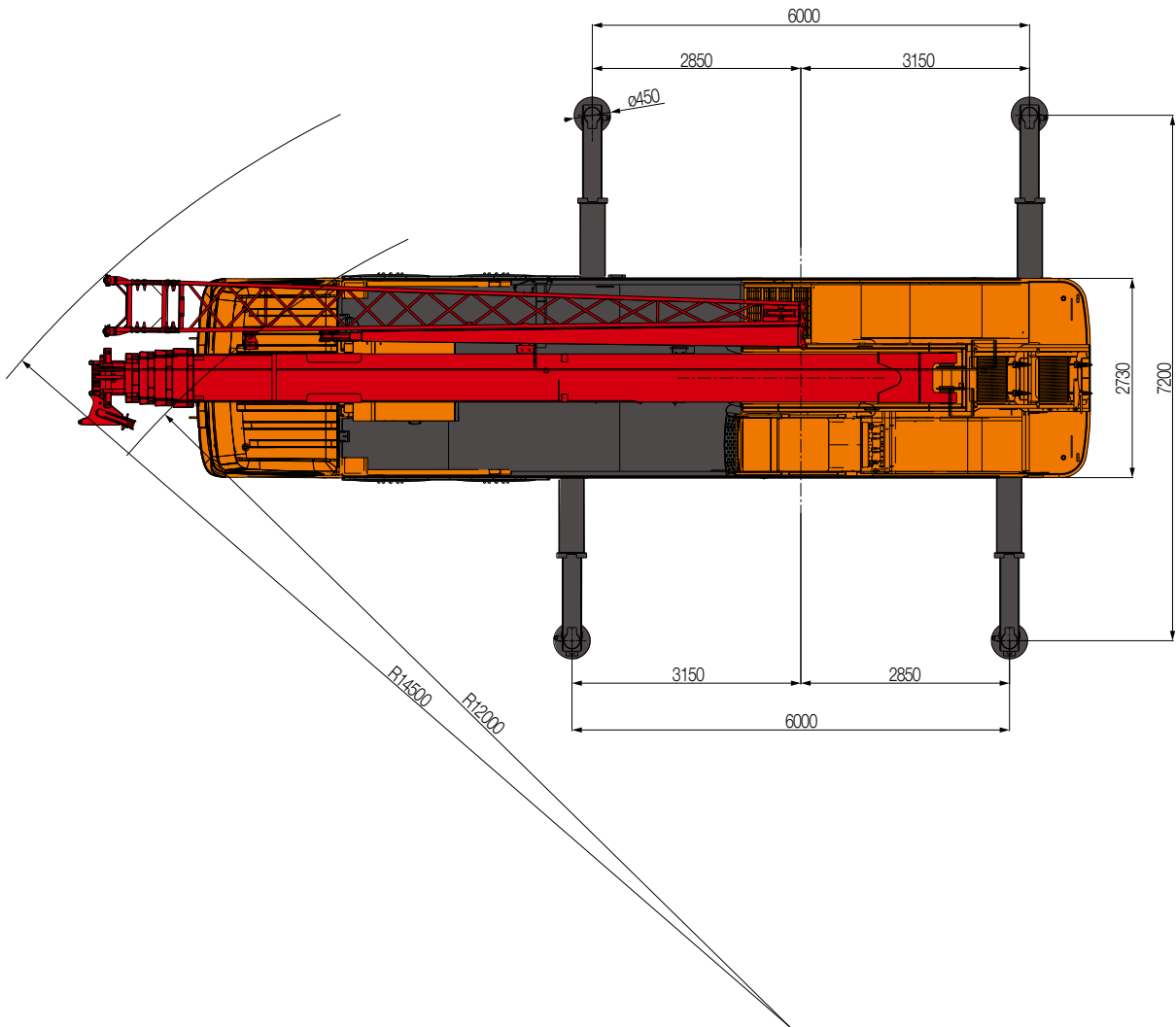
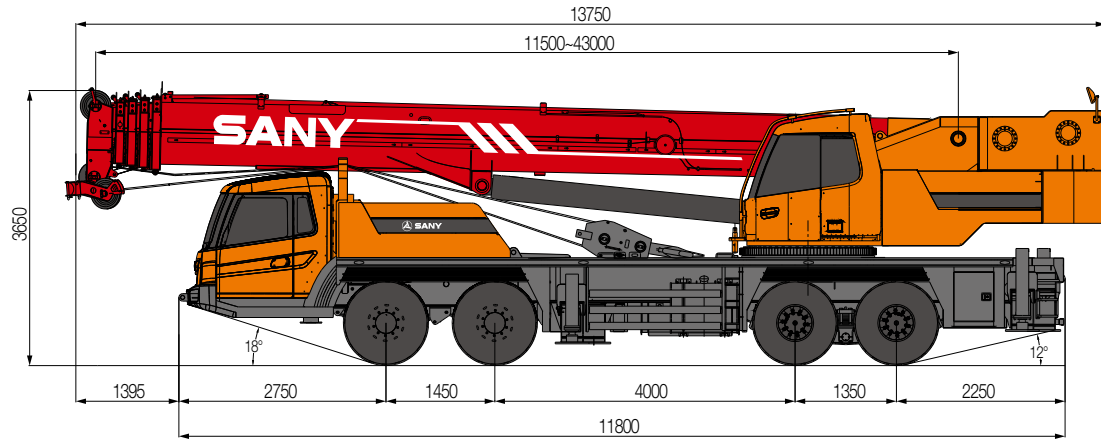
Tyres

- 11.00R20 18PR×12



Electrical system

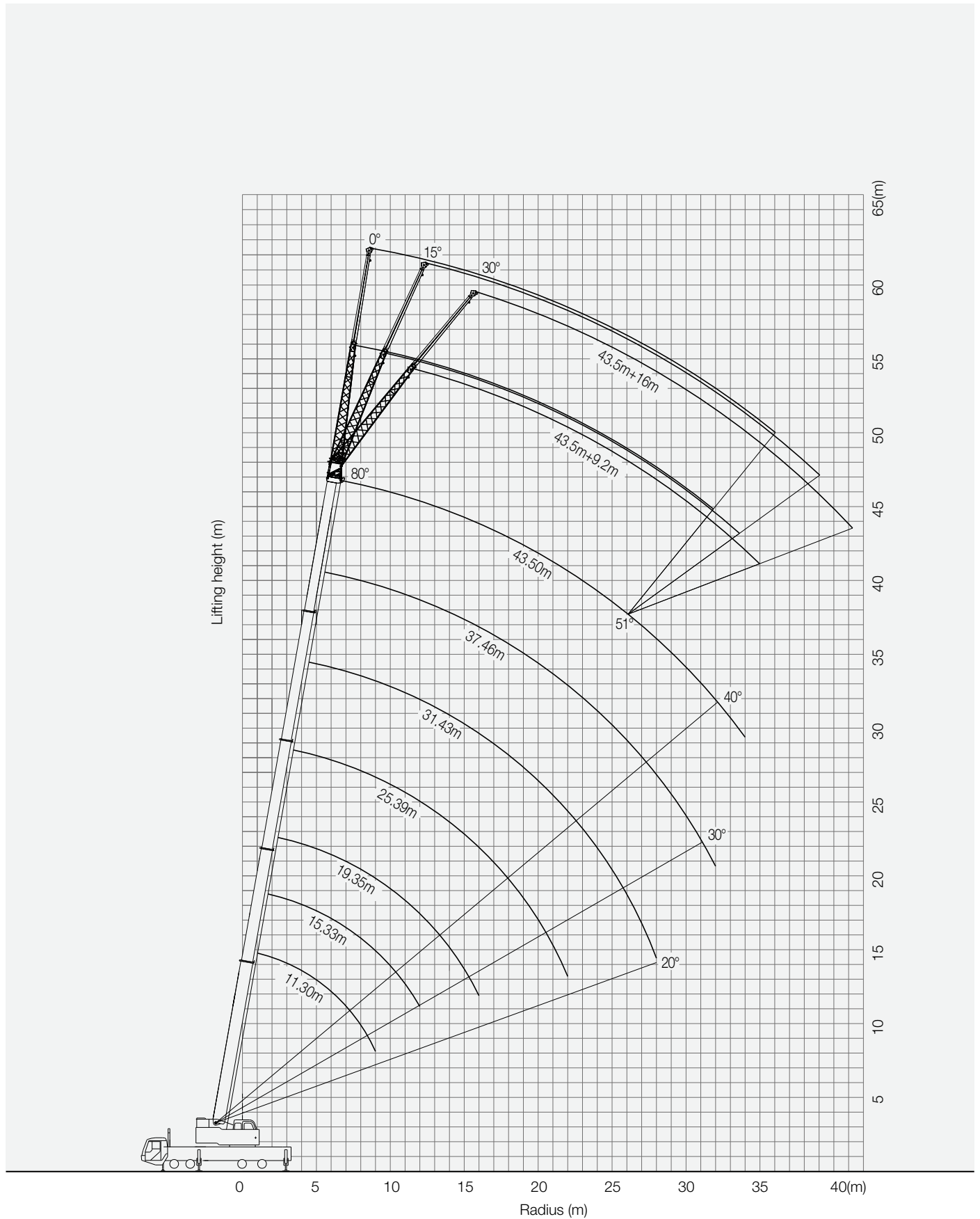
- With 2*12V maintenance-free batteries, the crane power can be cut off manually via a mechanical master power switch. The use of CAN-bus control system can achieve information interaction between superstructure and undercarriage.



STC500C TRUCK CRANE
TECHNICAL PARAMETER

Type	Item	Parameter	
Capacity	Max. lifting capacity	50 t	
Dimensions	Overall length	13700 mm	
	Overall width	2500 mm	
	Overall height	3810 mm	
	Axle distance	Axle-1,2	1450 mm
Axle-2,3		4200 mm	
Axle-3,4		1350 mm	
Weight	Overall weight	40500/41400 (with jib) kg	
	Axle load	Axle load-1,2	14500/15400 (with jib) kg
		Axle load-3,4	26000 kg
Engine	Rated power	251 kW/ 2100 rpm	
	Rated torque	1430 N.m/ 1300-1500rpm	
Traveling	Max.traveling speed	80 km/h	
	Turning radius	Min.turning radius	11.25 m
		Min.turning radius of boom head	13.75 m
	Wheel formula	8 × 4 × 4	
	Min.ground clearance	230 mm	
	Approach angle	≥10 ° (with front bumper)	
	Departure angle	≥ 14 °	
	Max.gradeability	40%	
Fuel consumption per 100km	≤ 45 L		
Main Performance Data	Temperature range	- 20 ° ~ + 45 °	
	Min.rated range	3 m	
	Tail slewing radius of swingtable	3.945 m	
	Boom section	5	
	Boom shape	U-shaped	
	Max.lifting moment	Base boom	1886.5 kN·m
		Full-extend boom	909.4 kN·m
		Full-extend boom+jib	391 kN·m
	Boom length	Base boom	11.3 m
		Full-extend boom	43.5 m
Full-extend boom+jib		59.5 m	
Outrigger span (Longitudinal×Transversal)	6 × 7.2 m		
Jib offset	0 °, 15 °, 30 °		
Working speed	Max.single rope lifting speed of main winch (no load)	125 m/min	
	Max.single rope lifting speed of auxiliary winch (no load)	125 m/min	
	Full extension/retraction time of boom	120 / 120 s	
	Full lifting/descending time of boom	80 / 80 s	
	Full extension/retraction time of outrigger(horizontal)	35/35 s	
	Full extension/retraction time of outrigger (vertical)	35/35 s	
	Slewing speed	0~2.0 r/min	
Air condition	Superstructure	Heating/Cooling	
	Chassis	Heating/Cooling	

STC500C Working Ranges



Prerequisites

- ① Boom operating conditions (fully extended boom length):11.3m-43.5m
- ② The span of outriggers is 6m×7.2m
- ③ Working at rear and side
- ④ Counterweight is 5t

Working range(m)	Main boom							Working range(m)
	11.3	15.33	19.35	25.39	31.43	37.46	43.5	
3	50000							3
3.5	50000	40000	33000					3.5
4	45000	40000	33000					4
4.5	41000	37000	31500	24500				4.5
5	38000	34000	29500	22500				5
5.5	35000	31000	27500	21000				5.5
6	31000	29000	26000	20000	16500			6
6.5	27000	27000	24500	19500	15500			6.5
7	24000	25000	23000	18500	15000	13000		7
7.5	22000	22000	21000	17500	14500	12500		7.5
8	20000	19500	19500	16500	14000	12000		8
9	16000	15500	15500	15500	12500	11000	8600	9
10		12500	12500	13600	11500	10000	8600	10
11		10000	10000	11000	10500	9300	8000	11
12		8300	8300	9500	9600	8800	7500	12
14			5600	6800	7500	7800	6500	14
16			3800	5000	5600	6100	5800	16
18				3700	4300	4700	5000	18
20				2700	3200	3700	4000	20
22				1900	2400	2800	3150	22
24					1850	2200	2500	24
26					1350	1750	1900	26
28						1250	1500	28
30						850	1050	30
32							700	32
Number of lines	12	10	8	6	4	4	3	Number of lines
Boom elevation	22.0°~68.5°	28.9°~72.4°	25.6°~76.2°	22.4°~77.2°	29.2°~76.9°	33.1°~77.5°	40.0°~76.6°	Boom elevation
Telescoping condition(%)								
2nd boom	0%	50%	100%	100%	100%	100%	100%	2nd boom
3rd boom	0%	0%	0%	25%	50%	75%	100%	3rd boom
4th boom	0%	0%	0%	25%	50%	75%	100%	4th boom
5th boom	0%	0%	0%	25%	50%	75%	100%	5th boom

Unit:Kg

Boom elevation	Outriggers are fully extended and working at rear and sides					
	9.2m jib			16m jib		
	0°	15°	30°	0°	15°	30°
78°	3500	2400	2000	2400	1450	1000
77°	3200	2300	1900	2400	1400	1000
75°	3000	2200	1800	2300	1300	950
73°	2700	2000	1700	2000	1200	850
71°	2500	1800	1600	1800	1100	850
68°	2200	1700	1400	1500	1000	800
66°	2000	1500	1300	1300	950	760
63°	1800	1400	1100	1100	850	720
61°	1500	1200	950	950	750	650
58°	1100	950	750	650	600	550
56°	700	650	550	500		
Min.elevation angle	55°					

1. Values listed in the table refer to rated lifting capacity measured at flat and solid ground under the lever state of the crane.
2. The working radius listed in the table is the actual radius when the crane is lifting the load.
3. Rated load values determined by stability shall comply with ISO 4305.
4. Rated lifting capacity listed in the table included weights of lifting hooks (555kg of main hook and 90kg of auxiliary hook)and hangers.
5. The values listed in the table are applied to 360° working range when the 5th outrigger is extended.
6. Rated lifting capacity with pulley at boom tip shall not exceed 4000kg and if the jib is extended the rated lifting capacity of boom should be reduced by 2300kg.
7. If actual boom length and range are between two values specified in the table, larger value will determine the lifting capacity.

STC500C TRUCK CRANE WHEEL CRANE FAMILY MAP

TRUCK CRANE



STC200
Maximum Load Capacity: 20t
Telescopic Boom: 4 Sections, 10.6-33m



STC250
Maximum Load Capacity: 25t
Telescopic Boom: 4 Sections, 10.65-33.5m



STC250H
Maximum Load Capacity: 25t
Telescopic Boom: 5 Sections, 10.5-39.5m



STC300S
Maximum Load Capacity: 30t
Telescopic Boom: 5 Sections, 10.6-40.5m



STC300TH
Maximum Load Capacity: 30t
Telescopic Boom: 4 Sections, 10.6-33.5m



STC300H
Maximum Load Capacity: 30t
Telescopic Boom: 5 Sections, 10.5-39.5m



STC500
Maximum Load Capacity: 50t
Telescopic Boom: 5 Sections, 11.5-43m



STC550
Maximum Load Capacity: 55t
Telescopic Boom: 5 Sections, 11.5-43m



STC600S
Maximum Load Capacity: 60t
Telescopic Boom: 5 Sections, 11.3-43.5m



STC750
Maximum Load Capacity: 75t
Telescopic Boom: 5 Sections, 11.8-45m



STC800S
Maximum Load Capacity: 80t
Telescopic Boom: 5 Sections, 12.2-47m



STC1000
Maximum Load Capacity: 100t
Telescopic Boom: 5 Sections, 13.5-52m



STC1000C
Maximum Load Capacity: 100t
Telescopic Boom: 6 Sections, 13.25-60m



STC1000S
Maximum Load Capacity: 100t
Telescopic Boom: 5 Sections, 12.25-56m



STC1200S
Maximum Load Capacity: 120t
Telescopic Boom: 7 Sections, 12.6-63.5m



STC1300C
Maximum Load Capacity: 130t
Telescopic Boom: 6 Sections, 13.3-69m



STC1600
Maximum Load Capacity: 160t
Telescopic Boom: 6 Sections, 13.4-69m



STC2200
Maximum Load Capacity: 220t
Telescopic Boom: 6 Sections, 14.25-69m

ALL TERRAIN CRANE



SAC1800
Maximum Load Capacity: 180t
Telescopic Boom: 6 Sections, 15.5-62m



SAC2200
Maximum Load Capacity: 220t
Telescopic Boom: 6 Sections, 13.5-69m



SAC2600
Maximum Load Capacity: 260t
Telescopic Boom: 6 Sections, 15.6-73m



SAC3000
Maximum Load Capacity: 300t
Telescopic Boom: 7 Sections, 15.4-83m



SAC3500
Maximum Load Capacity: 350t
Telescopic Boom: 6 Sections, 15.2-70m



SAC6000
Maximum Load Capacity: 600t
Telescopic Boom: 7 Sections, 17.1-90m

ROUGH-TERRAIN CRANE



SRC250
Maximum Load Capacity: 25t
Telescopic Boom: 4 Sections, 9.9-31.5m



SRC350
Maximum Load Capacity: 35t
Telescopic Boom: 4 Sections, 10-31.5m



SRC550
Maximum Load Capacity: 55t
Telescopic Boom: 4 Sections, 11.25-34.5m



SRC660H
Maximum Load Capacity: 66t
Telescopic Boom: 5 Sections, 11.5-43m



SRC750
Maximum Load Capacity: 75t
Telescopic Boom: 5 Sections, 11.8-45m



SRC1200
Maximum Load Capacity: 120t
Telescopic Boom: 5 Sections, 13-49m



Quality Changes the World

SANY AUTOMOBILE HOISTING MACHINERY

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For our consistent improvement in technology, specifications may change without notice.
The machines illustrated may show optional equipment which can be supplied at additional cost.

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